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Encouraging View of News Print Situation

Alexander Smith, President of Abitibi Power & Paper Co., Anticipates Greatly Increased Consumption, Particularly In United States—Predicts Canadian Outlook Will Be 75 Per Cent of Capacity For Current Year—Steadily Increasing Volume of Advertising Is Also Considered An Encouraging Indication

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., April 8, 1929.—An encouraging view of the news print situation was taken by Alexander Smith, president of the Abitibi Power and Paper Company, speaking at the annual meeting of that company in Montreal. He referred to the prospects of a decided increase in consumption of news print and said while the prospects were not yet entirely clear, it would be a safe estimate that the Canadian outlook would be 75 per cent or more of capacity for the current year, which would be a great improvement over the last six months.

It was an encouraging indication, said the president, that the consumption was improving so steadily in the United States, where, despite the money flurries, there was apparently great prosperity. "Advertising has also shown a large increase," declared Mr. Smith, "and this is one of the index figures that should be watched closely."

Answering a shareholder's query, the president asserted that it could not be definitely stated that the news print price had been stabilized. The price at present was very low, but considering the overproduction this was not a bad factor because nothing was as discouraging to new production as low prices. One good sign was the stoppage of indiscriminate price-cutting so that at the present time the manufacturers knew what they were getting for their product.

The president's views were corroborated by Percy B. Wilson.

At the general meeting, at which were represented by person or by proxy, 497,412 shares of the old board of directors was re-elected, without change, as follows: Alexander Smith, L. R. Wilson, G. R. Gray, W. A. Black, A. J. Brown, K. C., George E. Challes, W. K. George, G. H. Mead, Victor E. Mitchell, K.C., D.C.L., E. L. Tait, T. H. Watson and Percy B. Wilson.

The directors' report and financial statement for the year ended December 31, were accepted unanimously and several changes in by-laws were approved, dealing with issue of certificates, authority in signing cheques, presiding officers at annual meetings, etc.

At a special meeting immediately following, called to sanction the amendment to a by-law dealing with voting rights, there were not sufficient shares represented for a quorum, 926,528 being required. The special meeting was adjourned without action being taken.

Mersey Paper Has Rights to Explore

An arrangement of much significance to the Mersey Paper Company has been arrived at in an agreement between that company and the Nova Scotia Government. The company has been granted rights to explore all unalienated Crown lands in the province with certain exceptions, and to select for operations such areas as will yield 1,000,000 cords of pulpwood for the next 30 years, is embodied in the contract entered into between the Mersey Paper Company and the provincial government.

The watersheds of certain rivers and all lands, which, in the opinion of the Minister of Lands and Forests, should be reserved for the benefits of industries already established, are reserved under the terms of the lease.

It is also stipulated that the government may grant permits to farmers and fishermen and that the company's cutting operations until 1935 shall be confined to the island of Cape Breton and Guysboro County.

The areas must be selected by the company within the next two years, though the organization may be provided with other lands according as they fall into the hands of the Crown, should those now unalienated be insufficient to produce 1,000,000 cords for 30 years.

Thirty thousand cords of pulpwood must be cut annually. The stumpage rate for the first 10 years of the contract is set at one dollar; for the second period one dollar and fifty cents and for the third period, two dollars.

The first unit of the news print mill which the company is building on the Mersey River is expected to come into production about next October. Eventually there will be three units with a combined capacity of 375 tons per day. Three power developments on the river are planned and construction is progressing on schedule on the one at Upper Lake Falls. The intake dam there will serve as a storage basin for Lake Rossignol, which has a drainage area of 550 square miles and an estimated storage capacity of 512,000 acre feet for a depth of 20 feet. It is expected that this power development will provide 105 million kilowatt hours a year to the pulp and paper mill.

Manitoba Paper Co.'s Limits

The Manitoba Paper Company is endeavoring to obtain from the Dominion Government, which has control of the natural resources of the Prairie Provinces, an enlargement of the reserved area set aside for selection of pulpwood. At the time the agreement between the government and the company went through, the selection area was cut down considerably below the demands of the company, largely because of the insistence of the Bracken Government. The company was to get approximately 6,000,000 cords of wood, to be selected in blocks, and it is now claimed that the area set aside for selection purposes has yielded not more than one-half the amount of wood stipulated in the agreement. There is no official announcement in this regard, however.

Former Lakeview Paper Mill to be Overhauled

Kimberly-Clark Corp. Plans to Manufacture Specialty Papers in Newly Acquired Plant At Neenah, Wis.—Extensive Changes will be Made In Equipment—Alterations Will Probably Require Six Months' Time to Completely Repair and Equip the Mill

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., April 8, 1929.—Overhauling of the former Lakeview Paper Company mill at Neenah, Wis., will be started at once by the Kimberly-Clark Corporation preparatory to a resumption of operations. It was announced last week that the mill had been purchased from the Fraser Paper Company, of New Brunswick, Canada, the concern which earlier in the year bought it from Sears, Roebuck & Co.

Specialty papers will be made by the Kimberly-Clark Corporatin in this newly acquired mill. Extensive changes will be made in the equipment, the exact nature of which have not been announced. It is possible that the alterations will require about six months' time in order to completely repair, modernize and equip the plant. The company has followed a policy for some time of diversifying its products and will further that plan in the use of this mill. The Lakeview is a two machine mill with a capacity of 45 tons daily.

Fox River Valley Floods

Use of hydro-electric power units has been abandoned temporarily in a number of paper mills in the Fox River Valley and steam plants are furnishing all the power. This was caused by flood conditions caused by spring thaws, a severe snow storm a week ago, and a violent thunder storm several days later. Water at the dam at Menasha, Wis., where the control outlet for Lake Winnebago is located, was 24 inches above the crest of the dam, 9 inches above normal, according to A. F. Everett, government engineer.

It was necessary to shut down one section of the Fox River Paper Company's mill at Appleton, owing to back water entering drive wheel pits. Pumps and siphons were put into use but could not keep up with the flood waters. It is expected that the river will recede quickly unless new rains occur.

Forest Conservation Plans

Further steps to preserve Wisconsin's forests for a future timber supply will be taken by the state legislature at its present session. The assembly and senate have before them a comprehensive report of the forestry situation, prepared by an interim committee after an exhaustive investigation.

It is shown by the committee that counties are the chief governmental unit around which a public forestry program should be built. A law is proposed which will enable counties to take title to tax-delinquent lands and devote them to tree growing. Permission also is sought to move farmers from isolated, unprofitable areas and include these tracts in forestry preserves.

The federal government will be encouraged to enlarge its forest preserves in the state in order to give proper management to the growing of timber. It is estimated that eighteen million acres need this management. A tree nursery also is proposed for the southern part of the state, because it is believed that the one now in operation will not be able to supply the demand for trees for transplanting. Extensive fire protection measures also are sought as one of the strongest factors in conservation. Unless widespread reforestation is carried on, the committee points out, Wisconsin will be denuded of merchantable timber in twelve years at the present rate of cutting.

O'Keefe-Orbison Reorganisation

Reorganization is announced of the forty-year-old engineering firm of the O'Keefe-Orbison Engineering and Construction Company, of Appleton, Wis. The company specializes on pulp and paper mills and hydro-electric developments. Two engineers have been added to the organization. They are E. C. Nelson and Walter H. Gmeiner. The former previously was associated with the engineering department of the Kimberly-Clark Corporation, Neenah, Wis., and James L. Carey, of Chicago. For the last three years he was assistant chief engineer of the Longview Fibre Company, Longview, Wash., and came East to take his new position. Mr. Gmeiner was plant manager of the Appleton Wood Products Company, Appleton, Wis., for the last ten years. He previously was in charge of construction for the Whitney-Stein Company, of Denver, Col., and city engineer of Grand Junction, Col., where he designed and built the municipal water plant. Under the reorganization, O. C. Smith becomes president of the company, Mr. Nelson is vice president and treasurer, and Mr. Gmeiner is secretary. Mr. Smith has been identified with the firm for the last thirty years.

C. F. Otto Addresses Safety School

C. F. Otto, of the Employers Mutual Liability Insurance Company, of Wausau, Wis., spoke last week at the meeting of the city wide industrial safety school conducted at Marinette, Wis. The hall was filled to capacity. Mr. Otto's subject was "Hot Shots in Safety." He showed by means of colored charts how effective safety measures have become in the reduction of accidents. He declared, however, that the program is only in its initial stages, because the number of persons killed or injured in industrial accidents still reaches astounding proportions.

News of the Industry

William L. Davis, Sr., president of the Dells Paper and Pulp Company, of Eau Claire, Wis., is recovering from an appendicitis operation performed at St. Petersburg, Fla. He was stricken suddenly while visiting there in company with Mrs. Davis and daughter.

E. A. Oberweiser, secretary-treasurer and manager of the Whiting-Plover Paper Company, Stevens Point, Wis., has resigned as a member of the city council of Stevens Point. He assisted in establishing the managerial form of government in the city and served on the council for one year until he felt the plan was well established.

C. W. Hoeper, of Chicago, has joined the executive organization which is being formed to operate the Badger Paper Mills at Peshtigo, Wis., formerly the Peshtigo Paper Company. Mr. Hoeper will be assistant treasurer and sales manager.

Over exertion from trudging through the deep snow last week to his employment at the Menasha Products Company caused the death of John F. Jedwabny, of Menasha, Wis. He had been employed with the firm for some time and also was a city official for a number of years.

Announcement is made of the death of Mrs. Augustus Spies, of Menominee, Wis., last week. She was the widow of the former president of the Marinette and Menominee Paper Company.

F. H. Mosteller Resigns From Allied Mills

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., April 8, 1929.—Frank H. Mosteller, vice-president and general manager of the Allied Paper Mills, Tuesday tendered his resignation to take effect on May 1. According to Alex. G. Gilman, president of the company, the resignation has been accepted and made effective at once. It is understood that the question of a successor to fill the vacancy created will be taken up immediately by the executive committee.

By the original arrangement which resulted in the election of Frank H. Mosteller as vice-president of the company, he was also placed in active management of the plants of the corporation. President Gilman was thus given free rein to promote sales.

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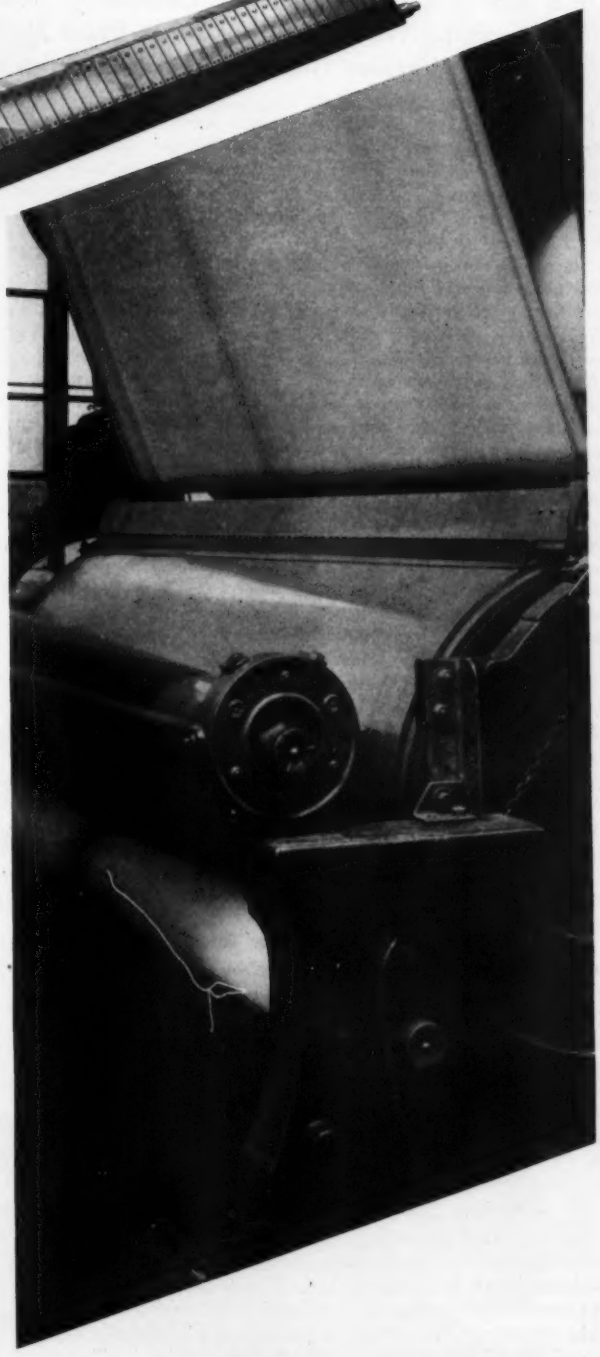

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Paper Demand Fairly Persistent in Chicago

Local Business Conditions Are Favorably Affected By Unusually Warm Spring Weather—Representatives of Leading News Print Mills Are More Optimistic Than For Some Time Past—Various Grades of Fine Papers and Book Papers Are In Excellent Request

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., April 8, 1929.—Unusually warm spring weather has had a decidedly favorable effect on the Chicago paper business and practically all lines report a good volume of business with excellent prospects for at least the immediate future. All business is in fair shape in Chicago and vicinity and this is counting favorably for the paper trade.

Among all the lines news print seems to have found itself the most noticeably and reports that mills are running around 80 per cent seem to be verified by reports from Chicago representatives who give out optimistic information since the price situation in news print has righted itself.

There is a good demand for book paper in the Chicago market and dealers in book seem to look confidently at least toward the immediate future. Heavy demand is making heavy production in the fine paper market and some mills are reported running quite a bit behind schedule—a pleasing condition in the fine paper lines. Profit margins are still very narrow. Tissues are having their best season while in the board market business itself seems good with fair demand but prices are still reported somewhat off. Immediately following the Easter season the wrapping paper volume declined slightly but it is expected to pick up immediately. In the waste paper market the lower grades are reported as decidedly the most active.

Montgomery Joins Swigart Organization

The Swigart Paper Company, Chicago, has announced that H. L. Montgomery, for a number of years connected with the John Leslie Paper Company, is now connected with the sales department as assistant sales manager with special charge of promotion of sales of the S. D. Warren line in which the Swigart Paper Company specializes. Since the World War Mr. Montgomery has devoted practically all of his time to a study of book papers while in the employ of the John Leslie Paper Company and the Chicago market is assured of a better understanding of the book paper field when it contacts with the new Swigart representative.

Schulz to Address Paper Salesmen

O. R. Schulz, vice president of the Neogravure Company, will address the Monday noon, April 8, meeting of the Chicago division of the Salesmen's Association of the Paper Industry on the important subject of Rotogravure. The make-up of this increasingly popular process, its many uses and ways of improving it will be discussed in a way that is sure to be interesting to the salesmen. Last Monday Phil Howard of the Howard Publishing Company entertained and instructed the good crowd of salesmen on a general discussion of the future of the paper industry in America and the tremendous possibilities of increasing this important market.

American Spiral Pipe Works Changes Name

The name of the American Spiral Pipe Works, of Chicago, has been changed to the Taylor Forge and Pipe Works. The company which has been serving the engineering trades since 1900 under the old name remains unchanged in ownership and capital structure.

The change which is one of name only has been made for the convenience of the customers who were not wholly familiar with the company's wide range of products for high pressure service.

News of the Trade

The James White Paper Company has issued to the trade another of its interesting series of color effects on Beckett Cover, designed to give not only information on grades of paper but valuable material that can be used to further the sales efforts of the printer.

The April 1 price list of the West Virginia Pulp and Paper Company, including the mill price list of Westvaco Brands has recently reached the Chicago printing and allied trades. Prices, together with descriptive paragraphs on each kind of paper, are quoted on more than twenty-five grades carried in the warehouse of the West Virginia organization. The next mill price list will be issued July 1.

Boston Paper Market Steady

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., April 8, 1929—Paper dealers of the Hub find a steady demand in at least a fair volume, and a very satisfactory amount of orders in some cases. Values of paper are well maintained and apparently stabilized in fine lines. There has been a tendency for kraft to advance, with fibre prices higher. The hope is expressed that quotations on coarse paper will be sustained.

The box board situation has continued in what some regard as a "deplorable" state and manufacturers and dealers generally are hoping that prices will be stabilized on a higher basis in the immediate future, if possible. It is reported that some manufacturers have suffered seriously from the lower prices. Thirty-five dollars has been generally the minimum price for chip board of late, although it is reported that some have sold down to $32.50, with $37.50 the highest quotation. Some concerns refuse to accept less than $35, and even at that price are said to be selling at a loss. Filled news board at a minimum price of $37.50 is reported to be a losing proposition and the maximum prevailing price is $40. Reports of meetings and prospective meetings have been current and it is understood that a betterment may take place soon, originating in New York City.

From some quarters comes the word that on account of slow candy business, the demand for boxes for that industry is quiet, with consequently less activity in board. It is stated that some other lines of boxes are not very lively. These conditions, although naturally not desired by the box board trade, appear to some rather discouraging in connection with advancing prices of board, much as they are apparently needed. In some instances, at least, the folding box business is good and night operation has been necessary.

Some of the consumers of paper stock appear to be well supplied and are not placing orders, although others are buying to a certain extent. There has been less call for No. 1 mixed paper, quotable at a minimum of .52½. Over-issue news is also slack and quotable at .65 to .80, compared with a previous range of .70 to .85. Bagging, new and old, domestic rags and foreign rags remain at the same levels.

New Multiple Retort Stoker Catalog

The Combustion Engineering Corporation, of 200 Madison Avenue, New York, have just issued a new catalog describing the C-E Multiple Retort Underfeed Stoker, Super Station Type. The design of the C-E Multiple Retort Stoker has changed materially since the last catalog on this stoker was issued, and these changes in design are covered both in the text and illustrations of this edition.

The C-E Multiple Retort Stoker meets the demand for an improved super-station type stoker. Results secured in installations now in operation indicate that this stoker represents a distinct advance in design, construction and performance.

Copies of this interesting catalog are available to our readers upon application.

Positive Suction Box Alignment

Uniform suction must be maintained by the suction roll, over the entire wire width of the sheet, to ensure satisfactory operation. This is obtained by perfect alignment and contact of the suction box to the shell.

Among the many outstanding improvements introduced by Downingtown in the Kilberry Patent Suction Roll was a method of supporting the suction box by its journals, in such a way that a perfect seal is maintained without adjustment and with a minimum operating friction.

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Canadian Nashua Buys Waxed Paper Business

Machinery and Other Equipment of Dominion Envelope & Carton Co.'s Toronto Plant Removed to Peterboro, Ont.—Transaction Makes Nashua Company One of Largest Organizations of Its Kind In British Empire—Firstbrook Boxes Ltd. Optimistic Report

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., April 8, 1929.—The purchase of the waxed paper business of the Dominion Envelope and Carton Company, Ltd., Duchess street, Toronto, and the removal of the machinery and other equipment of the Toronto plant to Peterboro, Ont., were announced a few days ago by John R. Marshall, general manager of the Canadian Nashua Paper Company. The Toronto firm has been the chief competitor of the Nashua company in Canada, and the transaction, it is stated, will make the Peterboro' company one of the largest industries of its kind in the British Empire. The waxed paper business of the Dominion Envelope and Carton Company was just one phase of that company's activities, so that the company will still carry on its other lines, such as envelopes, cartons, etc., in Toronto where they have a large plant. The waxed paper business just purchased by the Peterboro' firm is considered to be an extensive one, and the move to Peterboro' is regarded as of marked importance in paper circles in Canada.

Kagawong Cuts Its Own Wood

The Kakawong pulp mill, owned by the Little Rapids Pulp Company, of Wisconsin, and located on Manitoulin Island, Ont., shut down recently for a couple of weeks. This mill, since it was built in 1925, has been making a very fine grade of pulp and using spruce wood only. About the first of January this year they got an order for a cheap grade of pulp which required balsam and poplar to be used. Unable to buy or get timber men to cut sufficient poplar and balsam wood in the vicinity of the mill to keep it in operation until the opening of navigation, the company purchased a timber limit about two miles from the village of Kagawong, closed down the mill, and put the mill hands all to work cutting pulpwood.

Firstbrooks Show Good Balance

Shareholders of Firstbrook Boxes, Ltd., were presented with a very gratifying annual report of the year's operations at the first general meeting held in the new plant at Mt. Dennis, near Toronto, a few days ago. Substantial increase in business was recorded by the cartons, corrugated and wooden box divisions. The expression "annual report" at this time is somewhat of a misnomer as the company's incorporation did not take place until June 2, 1928, and the accounts presented represent only an operating period of seven months ending January 5, 1929.

E. Victor Donaldson, president of the company, presented the directors' report and in the course of his speech remarked: "From the surplus account before you will note the gross operating profits for the period were $100,807, and that in writing off $33,370, a liberal depreciation policy has been adopted. After deducting an amount for extraordinary expense and income taxes of $12,452 and bond interest and preference dividend requirements of $23,484, a net balance of $31,500 is available to be carried forward. I think it well to mention that due to the fact that the company has only moved into its new premises within the last fortnight, the above gross operating profits were arrived at before taking into account the savings to be effected through our activities henceforth being combined in one plant. Your directors consider that these figures constitute a very happy augury for the company's future. Apart from purely operating economies, important savings will be attained through the elimination of duplicate staffs and taxation expenditures incidental to the dual operation of our factories, previously situated some distance apart. An additional item of interest, and one which has not reflected in the surplus account, is that there has been a pleasing increase in sales since the commencement of the present fiscal year. Before moving to the new plant certain of our departments were working overtime to fill orders on hand. With the installation of new equipment here, however, the company is capable of taking care of a greatly increased volume of business without the necessity for overtime operation, which naturally will reduce cost of production. It is further of timely interest to mention, as well as a source of great satisfaction to the management, that despite very considerable difficulties, inherent to the removal of large operating plants, production was only slightly curtailed during the period of transference of plant and equipment to the present location.

Specially Designed Vessel for News Print

Vessels for Canadian owners figure to quite an appreciable extent in the shipbuilding revival now under way in British shipyards. While most of the vessels built for operation on the canals and Great Lakes are much of a pattern there are indications of a distinct departure from type in some of the more recently placed contracts. For instance, the Quebec and Ontario Navigation Company, which is a subsidiary of the Ontario Paper Company, have just placed an order with Earle's Shipbuilding, of Hull, England, for a vessel specially designed to carry news print rolls. This vessel is intended to operate primarily between Thorold, Ont., and Chicago, transporting news print from the Ontario Paper Company's mill for the *Chicago Tribune*. The dimensions are such as will permit of her being diverted to grain or pulpwood transportation through the St. Lawrence canals, but the vessel is specially adapted for the carriage of light bulk cargoes, and will carry much more news print than any other vessel of her size hitherto constructed. In addition to being somewhat deeper than the average vessel, a tank 13 feet deep extends between the end erections, while to compensate the excessive "windage" which such a deep size offers, extra ballast tanks are constructed along each bilge. Both the hull and machinery are a distinct departure from the usual practice and her performance will be watched with interest in pulp and paper circles.

Big Shipments of News Print at Halifax

The shipment of news print from the mills of Ontario and Quebec through the port of Halifax this past winter has assumed large proportions and is increasing every week. Gilbert E. Ring, representative of the firm of Guy Tooms, Ltd., which handles shipments for practically all the Central Canadian producers, was in Halifax lately looking after bookings and shipments. During the second week in March it is estimated that over two hundred cars of news print rolled into Halifax to be placed aboard liners, freighters and vessels of practically all descriptions for shipment everywhere from the United Kingdom to the Antipodes. The freighters *Turakina* and *Trewyn* each carried away 1,250 tons during the week for Australian ports. Other vessels carried heavy shipments to South American ports, while several small shipments went forward to the United Kingdom. Thousands of tons of news print have already gone forward from Halifax to New Zealand and Australia the past winter by steamers of the Canadian National Steamship Lines, and these ships sailing from Halifax until the opening of the St. Lawrence River will have heavy consignments as part of their general cargoes. Leading daily newspapers of Australia and New Zealand, and Buenos Aires as well, are heavy buyers of Canadian news print, and it is to them that the bulk of the shipments are going.

Good Winter for Pulpwood Cutting

The Hawk Lake Lumber Company, Cochrane, Ont., during the past season took out over 50,000 cords of rough pulpwood, 22,000 cords of peeled spruce and 15,000 cords of peeled poplar wood.

(*Continued on page 78*)

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and

Mount Tom Bleached Sulphite—Mount Tom, Mass.

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Demand for Paper is Spotty in Philadelphia

Distributors of Fine Paper Less Active Than In Early Days of March—Uncoated Grades of Book Paper Moving In Satisfactory Volume—News Print Market Exhibits Draggy Undertone—Manufacturers of Fine Paper Operating At 75 to 90 Per Cent

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., April 8, 1929—Both wholesalers and dealers in fine paper are not as active as they were in the early days of March. There are spotty days of active and slower trading. This sort of market has prevailed for the past fortnight and shows no signs of turning in the immediate future. Dealers find the same type of buying that has marked the post war years, with hand to mouth supplies moving along with the day to day demands of printers and other consumers. Wholesalers and mill representatives are supplying the larger publishers and printers with alternating days of good and slackened buying but no heavy volume of paper is demanded by any of the prominent consumers at this time. Most of the heavier traffic for this class of trade is in book paper in uncoated grades.

News print has moved along with fairly good demand although there is a tendency to dragginess in recent days. A few of the local fine paper dealers with government contracts have been fairly well supplied with business to keep hands employed in meeting the recently contracted requirements but with close margins of profit estimated so low that they cannot be considered as evidence of prosperity despite the activity. High overhead has handicapped the trade and there is no means of curtailing employment where business is of the small lot type necessitating larger forces to handle the frequent shipments. Fine paper mills report from 75 to 90 per cent of capacity in operations, with orders showing signs of slowing down now that the spring requirements have been anticipated by demands placed more than a month ago.

While pre-Easter buying of wrapping paper brought a temporary upswing in demand there has been a reaction since. The rise in the price of kraft has not stimulated buying. Corrugated products experienced a spurt of buying for Easter, particularly in such grades as are used for shipment of flowers and light mechandise. Wax papers have been unchanged in price and the holiday buying was in fair volume. Mulch papers have been in good demand by the seed dealers and hardware stores catering to the agriculture communities. As prospects are that the farmer will have a normal year there is likelihood that mulch papers will move in accordingly larger volume.

Building papers show signs of heavier demand and consequently higher prices, During the past week there was a fractional gain in the prices of all building papers. The dealers in building paper wares have long been confined to the lower prices that were made in the winter of 1927 and it is quite gratifying to the trade that there should be a revision more on a parity with normal years. Demand has extended to all grades of roofings, sheathing, felts and boards, so that the outlook is more optimistic than it has been for many months.

Having been well supplied with orders for considerable tonnage of boards placed when the keen competitive bidding for business was in force in the mid winter days and kept at top notch speed of operations throughout the first quarter of the year, the mills now are showing signs of slowing down. This applies to box board mills and not to the manufacturers of buildings boards who are just picking up after a quieter winter season. Box board mills are winding up the production of tonnage orders that were gained when prices sagged to as low as $30 per ton and new orders are being received at a more equitable value to the manufacturers although little new business is in sight. Board prices are from $35 to $40 for chip and $38 to $42 for news.

Graphic Arts Frolic

Joining in the annual Graphic Arts Frolic, held last Thursday night at the Manufacturers Club, 600 trade associates from the various branches of the printing, paper, and supplies trades, were linked in closer ties of goodwill and amity through the sociability of the occasion. While there was no formality to the 1929 celebration and the colorfulness of the former costumed affairs was lacking, there nevertheless were many diversions to provide a program brimming with zestful entertainment that lasted way into the morning hours. This year the Graphic Arts Frolic was limited to 600 owing to the smaller space allotted at the Manufacturers Club against the former spacious quarters of the luxurious Penn Athletic Club where previous celebrations of the joint social assembly of the allied trades was held.

Opening with a banquet preceded by a word of welcome from the Chairman, William T. Innes, and followed by a cheerful greeting from the Master of Ceremonies, Al Cuomo, of the American Type Founders, the entire evening's performance was lively with the brilliance of excellent vaudeville numbers interspersed with talent from the trade and awards of prizes to the lucky winners of the door ticket trophies. There were 23 prizes given to the merrymakers. Among the winners were the following paper men;— John Frantz, A. Hartung, Inc., who received a useful humidor; Howard Satterthwaite, Satterthwaite Cobaugh Company, a lady's hand bag; Ralph Duff, of the D. L. Ward Company, a traveling bag and Horace Kramer of the A. M. Collins Manufacturing Company, a carving set. Trade talent was the chief contribution to the evening's entertainment in the form of a delightful travesty on the electric age called "Electrophobia," written by Arthur Hayes formerly of the Whiting Patterson Company, now connected with Innes & Son.

The stars of the act were R. L. McCall, of Riegel & Co. Inc., with well rounded vocal selections and Philip C. Weidner, of the Wilcox Water Furlong Company and Byron Rogers, of the Hoeflich Printing Company, doing a dance act that won prolonged applause from the audience and a farcial rendition of radio announcing from an improvised broadcasting setting on the stage. Al Cuoma, dressed as Ben Franklin, made merry comments on each "actor" as he was presented showing much talent in repartee in his duties as Master of Ceremonies. When the vaudeville performance was brought to a close the remainder of the evening was devoted to dancing. More than 40 per cent of the attendance was among the fair sex, connected with the various paper houses and the allied industries.

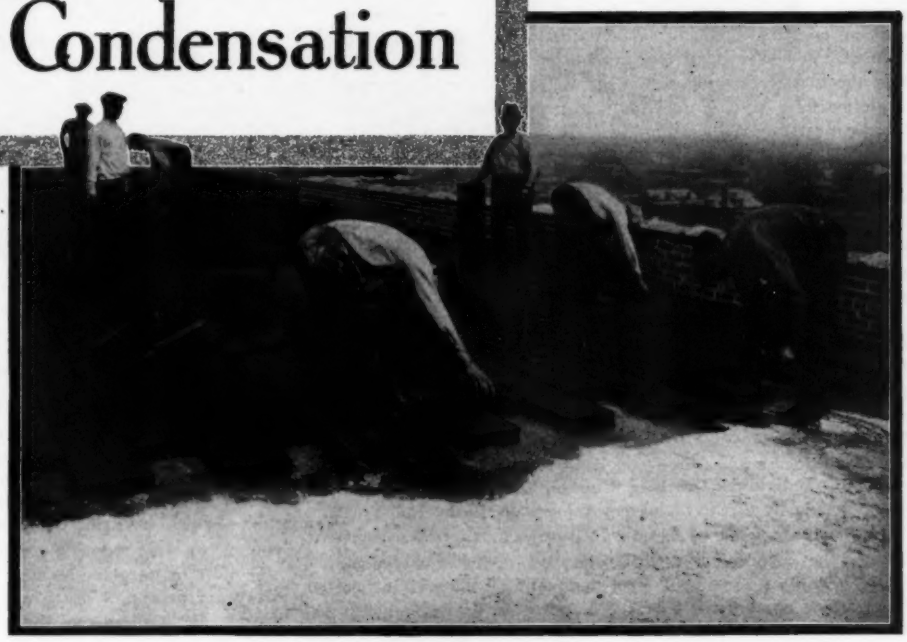
Paper Fire Menaces Fire Fighters

Serious injuries to the firemen who fought the blaze among the paper stock stored at the warehouses of the American Container Corporation in Manayunk sent five of the fire fighters to the hospital last Tuesday and caused minor injuries to several others. The warehouse was stacked with paper, the piles measuring 100 feet in height and when water poured into the building caused a collapse of the bales, pinning the firemen beneath the blazing stock and seriously burning those who were sent to the hospital. This is the second serious blaze which has destroyed tons of paper stock at the American Container plant this year, the other fire having occurred in mid winter when several carloads were destroyed. The fire last week destroyed several hundred tons of paper in the warehouses at the Manayunk Mills.

Perseverance Paper Mills Close

It was announced during the week that the Perseverance Paper Mills, located at Lambertville, N. J., manufacturers of grease proof and glassine papers, had been closed to operations. The

Prevention is better than cure for Condensation



WHERE there is high humidity and a cold roof, you have condensation, trouble and expense.

The proper thickness of Armstrong's Corkboard in most cases keeps the roof temperature above the dewpoint, and by eliminating the cause, prevents condensation, or, under the worst conditions, reduces it to a point where it can be handled easily. Armstrong's Corkboard insulation is the most effective remedy known for "ceiling sweat."

Your present buildings can be insulated without interfering with operation. Armstrong's Corkboard goes on top of the roof, right over the old roofing—an outside job that is quickly and easily done. The very reasonable investment in Armstrong's Corkboard will be quickly repaid in improved conditions in your mill and in the saving of heat that is lost through uninsulated roofs.

Armstrong engineers have had years of experience in dealing with the condensation problem. A copy of the book "The Insulation of Roofs to Prevent Condensation" will be sent on request. Address Armstrong Cork & Insulation Company, 904 Concord Street, Lancaster, Pa.; McGill Building, Montreal; 11 Brant Street, Toronto, 2.

Armstrong's Corkboard Insulation

for the Roofs of All Kinds of Buildings

Perseverance mills are owned by local interests, of which George A. Leavitt, with offices in the Widener Building is head. Others associated with Mr. Leavitt are E. T. Lynch, secretary and treasurer; William Skillton, superintendent, and William P. Beecher, formerly of the Conshohocken Glassine Paper Company, mill manager. The closing of the mills is effective following an adjustment of the firm's business affairs. The mills recently were placed under reconstruction and modernizing of the units and power plant effected to provide for increased production in glassines and similar products.

Scott Paper Co. Installs New Machine

By the mid summer month the Scott Paper Company will have in operation the largest tissue mill in the world, the new unit now being constructed at its plant in Chester. Pending the completion of the new machine the Scott company will continue to occupy the Flat Rock mills of the Dill & Collins Company, where a single machine is being used for the manufacture of the tissues used in converting sanitary products. It is expected to have the new unit at the Chester mill in operation by mid June when the present temporary quarters in Manyunk will be vacated. The Flat Rock mills of the Dill & Collins Company have been discontinued for more than two years, the production of the fine paper manufacturers being confined to the Richmond mills of the Dill & Collins Company, although, the firm still owns the Flat Rock plant which has been leased to the Scott company.

Lancaster Firm in Bankruptcy

A voluntary petition in bankruptcy was filed by the Garden Spot Wholesale Confectionery Paper and Novelty Company, of Lancaster, Pa., here last week. The petition filed in the United States District Court states that liabilities are $34,141 and assets $13,957. The head of the firm is Roy R. Roland. Martin E. Musser of Lancaster has been appointed referee.

Individual Drinking Cup on the Air

As the popularity of the broadcasting program of the Individual Drinking Cup Company, of Easton, Pa., grows among the national audience, the manufacturers have been receiving compliments from all points of the compass on the featured 'Circus On The Air", which is broadcasted over the National Chain through Station WJZ. The broadcasting program has not only increased the demand for the Dixie Cups made by the firm but has added fame to the company because of the uniqueness of the program. The outstanding character in the "Circus On The Air", is Uncle Bob, one of the original Barnum and Bailey clowns, who has gained many friends among the children of the nation by his stories of circus life. The Paper Manufacturers Company, of this city, occupying a half million dollar home at 5th and Willow streets, one of the largest distributors of Dixie Cups in the East, has likewise gained many customers for the sanitary product through the broadcasting every Friday night. There has been a very heavy demand for the newest of Dixie Cups which recently was placed on the market. It is a decorative cup with blue filigree design bordering the rim which adds to its appearance. It is much favored by soda fountains and for outing and picnic purposes and makes a decorative product as well as useful article.

Charles Beck Paper Co. Adds New Lines

Three new lines now being made by the S. D. Warren Company are being exploited in direct mail contact by the Charles Beck Paper Company, local distributors of the Warren's Standard Printing Papers, 609 Chestnut street. The new products from the Warren mills are the Twillfold, in white and ivory, the Cumberland Antique Book and the New England Machine book papers. These products are being sampled in printed specimens showing the excellency of illustration on the papers in an elaborate mail piece now being sent to the consumers. Accompanying the Warren products are specimens of the Silkote post card stock made by these mills and the Beck post card stocks, the firm's own make, the former a dullo-enamel and the latter uncoated in cream color. The Beck Paper Company has sent out an announcement to the trade stating that Charles W. Bond, formerly vice president and a director of the Arnols-Roberts Company, of Boston, Mass., has become associated with the firm in charge of sales promotion work. Mr. Bond has had eighteen years of experience in this class of sales work as an associate of printing and advertising agencies.

Cherry River Paper Co. Operates Full Time

Just returned from a trip to the Cherry River Paper Company mills in Richwood, Va., General Sales Manager Clark H. Morian, reports that the plant is being operated on full time with large spring orders for the bleached and unbleached specialties which the firm produces. General Manager Morian spent the Easter week in going over the mills, returning to the main offices here in the Pennsylvania Building last Monday.

M. J. Kelly Recovering From Illness

M. J. Kelly, for more than thirty years superintendent of the P. H. Glatfelter mills at Spring Grove, Pa., who has been wintering in Florida on a recuperation trip, returned to the city last week calling on his son-in-law President Norbert A. Considine, of the Paper House of Pennsylvania. Mr. Kelly was stricken with an ailment that required an operation while on a vessel bound for Germany more than a year ago and spent most of his time abroad in the hospital recovering from the operation instead of enjoying the vacation he intended upon his retirement from the Glatfelter Company. Since his sojourn in Florida he has been making rapid recovery.

Charles McDowell Returns From Cruise

Charles McDowell, head of the McDowell Paper Mills, Manyunk, has returned to his desk after a six weeks cruise in Florida waters as the guest of Commodore Charles Eisenlohr, on his yacht *Miramar*. The McDowell mills have been plentifully supplied with orders for glassine and grease proof products which were needed for the Pascal season. The mills are now equipped with entirely new electrical units in both power and paper making machines which have increased production and speedy handling of orders. A wide range in colors and designs are now featured by the mills in its glassines and similar products in waxed and grease proof papers.

Cellophane Plant for DuPonts

With the growing demand for cellophane used either as an entire wrapping or in conjunction with paper products by the trade the demand for this product has grown to such an extent that further extension of production is necessitated in the DuPont Cellophane Company, wholly owned subsidiary of the E. I. du-Pont de Nemours & Co., of Wilmington, Del. Plans for the erection of a larger plant to augment that already in operation at Old Hickory, near Nashville, Tenn., have been completed. The present plant of the duPont company in operation is devoted to the manufacture of rayon and is the headquarters of the duPont Rayon Company. Preliminary work on the building is to be undertaken at an early date.

Joseph G. Worker Honored

Joseph G. Worker has just been elected vice-president of the Electrical Hoist Manufacturers' Association. Mr. Worker is director of the American Engineering Company and is in charge of its sales activities. He was recently elected director of the American Fluid Motors Company, of Philadelphia, also of Affiliated Engineering Companies, Ltd., of Montreal, Canada, and of Juruick Refrigeration, Inc., of New York City. He is director and former president of the Stoker Manufacturer's Association.

Ratify Purchase of Eaton Paper Co.

PITTSFIELD, Mass., April 8, 1929.—The stockholders of the Eaton Crane and Pike Company at their annual meeting ratified the action of the directors in their purchase of the Eaton Paper Company, property at Adams. The directors elected were Winthrop M. Frederick G. and Z. Marshall Crane, Arthur Wand, Col. W. H. Eaton. Col. William H. Eaton was elected President, and Arthur W. Eaton, chairman of the board.

Naylor Pipe in the Beater Room of the Anderson, Indiana, Mill of the Certain-teed Products Corporation

In Erecting Your Next 6" Pipe Line . . .

Why Handle 380 Pound Lengths When 190 Pound Lengths Will Do?

PUTTING in a 6" pipe line of standard weight wrought pipe involves handling 380 pounds with every 20 foot length.

Contrast this with the handling of a pipe one half this weight —only 190 pounds per 20 foot length.

The greater ease in handling is obvious. This means economy. A definite saving in dollars and cents.

Naylor Pipe assures cheaper handling because size for size, pressure for pressure, it weighs 50% less than ordinary standard weight wrought pipe.

Many successful installations testify to the growing preference for Naylor Pipe in paper mill service. Send for a sample length.

Another outstanding advantage of Naylor Pipe...

It is made of Toncan Iron (a highly refined iron with which is alloyed Copper and Molybdenum) which gives it far greater resistance to rust and corrosion. This assures longer pipe life.

NAYLOR PIPE COMPANY

Main Office and Plant, 1230 East 92nd Street, Chicago

Sales Offices:

New York	Philadelphia	Tulsa	Detroit
25 Church Street	Witherspoon Building	507 Philtower Building	1500 Cadillac Square Building

DUCOMMUN CORPORATION

Los Angeles San Francisco

Exclusive Distributors: California, Arizona, Nevada, and Utah

Montreal, Canada—Mechanical Equipment Company, New Birks Building

TONCAN

Naylor Pipe

Mo-lyb-den-um

IRON

Standardized Naylor Pipe is made in sizes 6" to 12" in standard 20 ft. lengths or special lengths up to 40 ft. Made with 5 types of pipe ends to wrought pipe standards for 5 types of joints.

Where corrosion resistance is not a factor Naylor Pipe can be furnished in steel.

Toncan Copper Molybdenum Iron is a development of Central Alloy Steel Corporation, the world's largest and most highly specialized alloy steel producers. It possesses a superior corrosion resistance, making it the favored pipe material.

Paperboard Industries Association Meets

Members of the Paperboard Industries Association met at the Commodore Hotel, New York City, March 20-21, 1929. The Folding Box Group meeting was held Wednesday morning, March 20; the Paperboard Group meeting Wednesday afternoon, March 20; the Container Group meeting Thursday morning, March 21 and the General Meeting of all members of the Three Groups, Thursday afternoon, March 21.

Folding Box Group Meeting

H. H. Stonebarger, of the Globe Folding Box Company, Cincinnati, Ohio, group vice-president, presided at the meeting of the Folding Box Group. This meeting was unusually well attended, and members participated actively in a discussion of the problems of the folding box industry. A resume of subjects considered at this meeting follows:

Extending the Use of Folding Boxes

A detailed report was submitted showing progress made in inaugurating and extending the use of folding boxes for the packaging of a number of articles, which may advantageously be packaged in folding cartons.

Statistical-Accounting Subjects

In connection with the above, Grafton Whiting, the Association's Statistician, reported in detail with respect to—

1. Uniform Depreciation Rates.
2. Census of the Folding Box Industry, including an analysis of returns received to date.
3. Cost Estimating Manual, now being prepared for the Folding Box Industry.

Invitation to be extended to Suit Box Manufacturers to Attend May Meetings

It was the sense of the meeting that a cordial invitation should be extended to the manufacturers of suit boxes to attend the next meeting of the Association, which will be held in Chicago, as follows: Meeting of Folding Box Group, 10:00 A. M., Wednesday, May 22, 1929; General Meeting of the Association, 1:45 P. M., Thursday, May 23, 1929.

The suggestion was made that between now and the May meetings, each member make an effort to secure the attendance of as many suit box manufacturers as may be possible.

Just prior to adjournment, a member stated that this had been the most interesting meeting of the Group ever held, and the general sentiment indicated that all members had been well repaid for having attended and participated in the deliberations.

Paperboard Group Meeting

The Paperboard Group meeting Wednesday afternoon, January 23, was presided over by Hugh Strange, of the John Strange Paper Company, Menasha, Wis., group vice-president. The meeting was well attended.

Vice-President Strange submitted a most interesting report, in which he covered the situation that was obtained in the paperboard industry.

Eliminating the Manufacture and Use of Inferior Container Board

The above subject, which was reported on in detail by General Manager Browder was discussed at length and a number of suggestions were made looking to the elimination of the use of container boards which fail to meet the governing specifications.

Attention was called to the activity and drastic action on the part of the railroads in embargoing boxes which failed to comply with the carriers' specifications and it was the sense of the meeting that board manufactured and sold for use in test shipping containers must fully meet the specifications and that the board manufacturer has a direct responsibility in this regard.

Standard Weight Bases for Kraft Facings

The Group gave consideration to the above subject and a report thereon is included in the Minutes of the meeting.

The Group endorsed the recommendations of the Standardization Committee, which recommendations urged that the factors in the industry support wholeheartedly the schedule of simplified thicknesses as contained in the Association's Booklet of Standards, which schedule was adopted with the assistance of the Simplified Practice Division, U. S. Department of Commerce.

Import Tariff Committee's Report

Chairman H. D. Schmidt of the Import Tariff Committee, reported as follows:

Your Import Tariff Committee was appointed at the November, 1928, meeting of this Association. At the January meeting their report as to Paragraph 1302 and Paragraph 1303 of Section 13 of the Tariff Act of 1922, was approved. In general this was to improve the phraseology of these two paragraphs to avoid ambiguity.

Your Committee has continued to work with the General Tariff Committee of the American Paper and Pulp Association and that Committee's Counsel, Wise, Whitney and Parker, as well as the Import Committee. Full credit must be given Messrs. Bullock and Hecht of the Import Committee and to Messrs. Whitney and Parker, Counsel, for their painstaking and tireless efforts to use the wealth of data, particularly from the files of the Import Committee, in the compilation of the Brief for the entire Paper Industry. It is really a work of art; entirely co-ordinated so that each division of the Industry tied in with and supported the opinions of the other divisions.

This brief was presented on February 13, 1929, by Mr. R. K. Ramsey, Vice-President of Hinde & Dauch Paper Company, to the Ways and Means Committee of the House of Representatives, at Washington, D. C. Your Chairman succeeded Mr. Ramsey and answered questions of the Committee on the reasons for our request. Among these questions were several that pertained to the so-called Washington Resolutions of the Department of Labor.

Congressman Hawley, Chairman, in closing the hearings stated that the Paper Industry's presentation was the best of all the industries, which have been heard in this session. Congressman Garner, the Texas Democrat, whose questioning of industries has at times been embarrassing to them, said that the paper men were so well fortified with facts that it was difficult to confuse them.

It is now necessary to follow this through the House Sub-Committee, the Senate Finance and Joint Conference Committee hearings.

A copy of the Brief of the Paper Industry is attached.

Respectfully submitted,
IMPORT TARIFF COMMITTEE
F. A. NORTON,
HUGH STRANGE,
HENRY D. SCHMIDT.

March 1, 1929

The report of the Import Tariff Committee was accepted and a vote of thanks was extended to the Committee and to R. K. Ramsey for the splendid way in which they had handled this important subject for the industry.

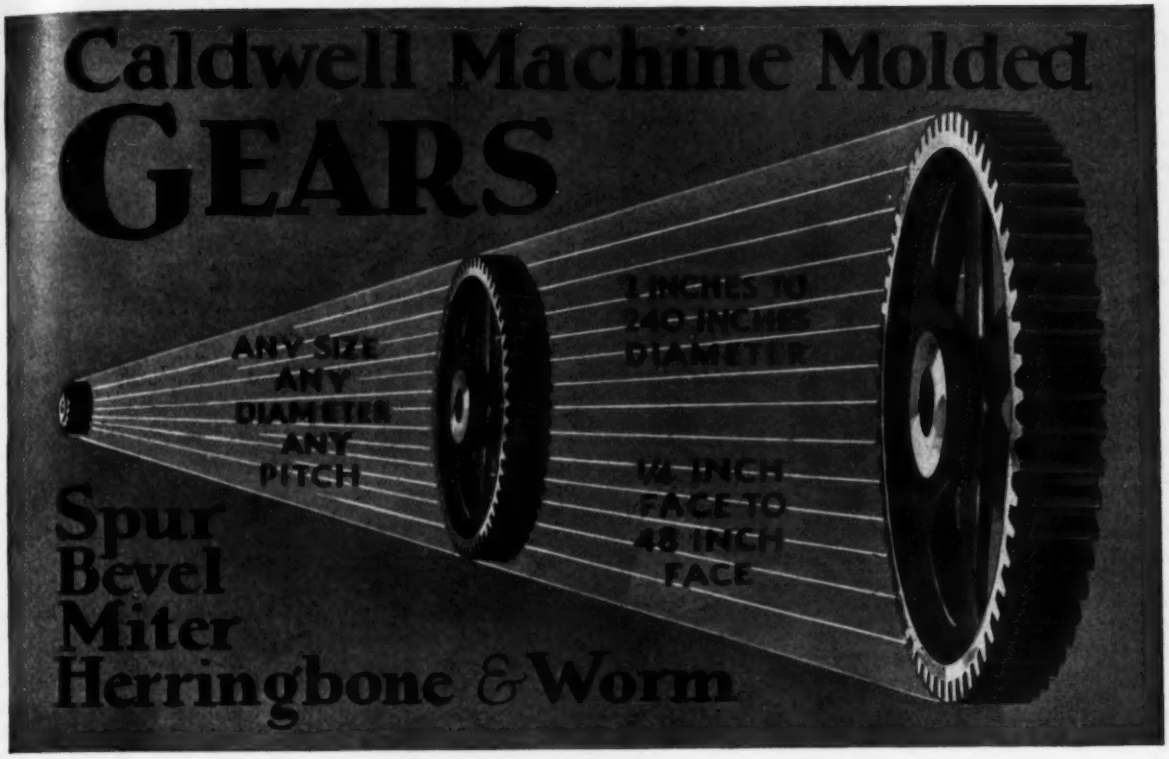
Statistical-Accounting Subjects

Mr. Grafton Whiting, Statistician, reported in detail on the subjects mentioned below:

1. Census of the Paper Board Industry
2. Comparison of Box and Board Prices
3. Paperboard Group Charts and Summaries.

Container Group Meeting

H. C. Krannert, of the Inland Box Corporation, Indianapolis, group vice-president, presided at the Container Group meeting.



By the Caldwell machine molded process, cast iron gears can be shipped in less time than a new pattern could be made.

We can match or replace any existing gear. With the Caldwell process we have quickly replaced cut gears with Caldwell machine molded gears in emergencies—and they are still running after having given years of satisfactory service.

Regarding Our Pattern Equipment for Molding Gears

We maintain the most complete line of gear patterns. See pages 421 to 490 of our 1088-page general catalog No. 500. For gear service, address—

H. W. CALDWELL & SON CO. C-115

LINK-BELT COMPANY, OWNER

CHICAGO: 2410 W. 18th Street

DALLAS TEXAS: 1101 Mercantile Bank Bldg. NEW YORK: 2676 Woolworth Bldg.

Offices in Principal Cities

Vice-President Krannert reported in detail regarding a meeting of the Association's Executive Committee, which had been held on March 18th.

General Manager Browder Reports

General Manager Browder submitted a comprehensive report of "container" subjects, particular mention being made of the following:

1. Traffic and Classification Matters. (Resume of Changes in Packing Specifications authorized or proposed.)
2. Steel Container Car Service.
3. Simplified Practice in the Use of Skid Platforms.
4. Inspection Service to Maintain the Quality of Corrugated and Solid Fibre Boxes.
5. Regarding Proper Use of Certificate of Box Maker.

Statistical-Accounting Subjects

Grafton Whiting, Statistician, reported in detail upon the following items:

1. Regarding use of Recommended Rates of Depreciation.
2. Census of the Container Industry.
3. Container Charts and Summaries.

Standardization Committee's Report

Chairman R. H. Dollison, of the Fairmont Box Company, Fairmont, W. Va., submitted a report covering the recommendations of the Committee, with respect to the following subjects:

(a) Standard Weight Bases for Kraft Facings.
(b) Elmendorf Tearing Test for Cloth Tape.
(c) Specifications for Corrugated and Solid Fibre Boxes for Heavier Weight Limit and of Larger Size, than now authorized by governing specifications.

The recommendations of the Standardization Committee were duly adopted.

Three Groups In Joint Session

The general meeting was presided over by J. J. Brossard, of the Fort Wayne Corrugated Paper Company, Fort Wayne, Indiana, the President of the Association.

Executive Committee's Report

President Brossard announced that a meeting of the executive committee had been held at the Commodore Hotel, New York City, Monday, March 18, 1929, and he submitted a report containing a resume of subjects considered at the meeting, together with record of the action or the recommendations of the Executive Committee with respect thereto. The report covered the following items:

1. Finances
2. Appointment of Mr. J. H. Macleod, of The Hinde & Dauch Paper Company, to represent the Association at the Annual Meeting of the Chamber of Commerce of the U. S. A., Washington, D. C., April 29-May 3, 1929.
3. Notice mailed to certain Container Manufacturers regarding Hearing before Board of Review, Federal Trade Commission, Washington, D. C., March 29, 1929.
4. Continuation of Container Inspection Service.

General Manager's Report

General Manager Browder submitted a concise report of the principal activities of the Association since the last meeting. Specific reference was made to the following:

1. Review of General Association Activities.
2. Membership Status.
3. Sales Promotion and Publicity.
4. Report of Federal Trade Commission regarding Trade Association Organization.
5. Inspection Service to Maintain the Quality of Corrugated and Solid Fibre Boxes, including Summary of Results of the Work to date.

Sales Promotion Committee's Report

Chairman J. M. Arndt stated that the Sales Promotion Committee's printed report was being mailed to all members and he urged that members make use of the data contained in these reports. He introduced A. W. Luhrs, Sales Promotion Representative, who reported in detail for the Committee.

New Members

Twelve companies, as follows, were duly elected to membership at the meeting and since that time additional applications for membership have been received:

Bird & Son, Inc., East Walpole, Mass., Paper Board, Container, Folding Box.

Birmingham Paper Company, Birmingham, Ala., Container.

Kellogg Box Board Company, 2555 W. Taylor Street, Chicago, Ill., Paper Board.

Mobile Paper Mills, Mobile, Ala., Paper Board.

Newark Boxboard Company, Newark, N. J., Paper Board.

The Nivison-Weiskopf Company, Cincinnati, Ohio, Container.

Oswego Falls Corporation, Fulton, N. Y., Paper Board.

The Ottawa River Paper Company, Toledo, Ohio, Container.

Parkersburg Corrugated Box Company, Parkersburg, W. Va., Container.

PeQuot Manufacturing Corporation, Glendale, Queens, N. Y., Container.

Rockford Fibre Container Company, Rockford, Ill., Container, Paper Board.

Toronto Paper Manufacturing Company, Toronto, Ohio, Paper Board.

Administering Trade Practice Rules

There was read at the meeting the Resolution which had been adopted at the mass meeting of the industry, held at the Commodore Hotel, New York City, March 19th, as follows:

RESOLVED, That this mass meeting of the Paperboard, Container and Folding Box Industry request the Paperboard Industries Association to assume the administration of the Trade Practice Rules, as approved by the Federal Trade Commission for said industry; and

RESOLVED FURTHER, That the industry agree to participate pro-rata in the expense necessary for carrying on this constructive work.

Association members voted unanimously to assume the administration of the trade practice rules with the understanding that the industry would participate pro-rata in the expense necessary for the carrying on of this work.

In accordance with the plan of organization as adopted at the mass meeting of the industry, President Brossard announced the appointment of temporary zone chairmen as follows:

New England, C. J. Schoo, General Fibre Box Company, Springfeld, Mass.

New York City, Geo. W. Gair, Robert Gair Company, 420 Lexington avenue, New York City.

Philadelphia-Baltimore, T. C. Mitchell, Federal Container Company, 56th and Paschall avenue, Philadelphia, Pa.

Pittsburgh, F. J. Kress, F. J. Kress Box Company, Arsenal Station, Pittsburgh, Pa.

Rochester-Buffalo, James B. Fenton, Buffalo Box Factory, 30 Scoville avenue, Buffalo, N. Y.

Cleveland-Detroit, Sidney Frohman, The Hinde & Dauch Paper Company, 409 Water street, Sandusky, Ohio.

Southern Ohio-Indiana, H. C. Krannert, Inland Box Corporation, 700 W. Morris street, Indianapolis, Ind.

St. Louis-Kansas City, M. M. Madson, C. F. Downey Box Co., No. Kansas City, Mo.

Chicago, J. P. Brunt, Container Corp. of America, 935 Conway Bldg., Chicago, Ill.

Atlanta-Southern, O. B. Andrews, O. B. Andrews Co., Chattanooga, Tenn.

St. Paul-Minneapolis, Paul N. Myers, Waldorf Paper Products Co., St. Paul, Minn.

Pacific Coast, D. H. Patterson, Jr., Fibreboard Products, Inc., Russ Building, San Francisco, Calif.

Next Meeting

The next meeting of the Association will be held at the Palmer House, Chicago, May 22-23, 1929.

CARE *from Start to Finish*

The appearance of paper depends largely upon its cut. The careful production of any article involving paper means careful cutting from start to finish. No machine in the graphic arts has a greater responsibility than the paper cutter.

Care in Selling and Servicing

Eastern Sales Agents
E. P. LAWSON CO., Inc.
424-438 W. 33rd St.
New York, N. Y.

Western Sales Agents
CHAS. N. STEVENS CO.
112 W. Harrison St.
Chicago, Ill.

Southern Sales Agents
J. H. SCHROETER AND BROTHER
Atlanta, Georgia

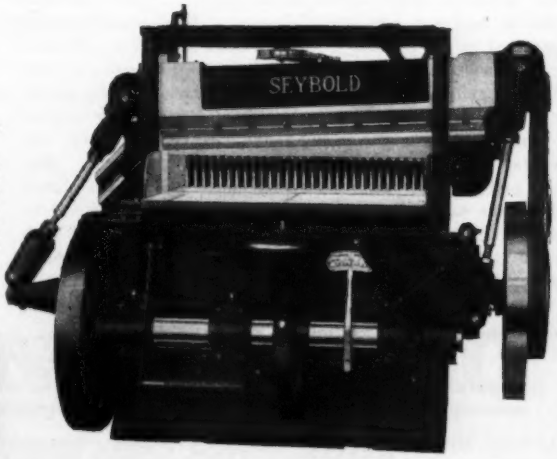
Care of Knives

Cutters and trimmers will do better work if the knives are carefully ground. The new Seybold Grinder does this. Write for Circular No. 2215, addressing the office nearest you.

Care in Building

For forty-five years the Seybold cutter has been carefully built for those who buy carefully. Inbuilt mechanisms of safety have made possible a machine "careful of its operator." Controls have been carefully placed. Long life has been carefully built into every part. Careful investigation proves its advanced design. Write nearest agent, or factory, for prompt attention.

HARRIS-SEYBOLD-POTTER CO.
SEYBOLD MACHINE CO. DIVISION
DAYTON, OHIO



SEYBOLD AUTOMATIC CUTTERS

Sizes 32, 34, 38, 40, 44, 50, 56, 64, 74, 84 and 94 inch. Illustration shows 44 inch size. Also Seybold round corner cutter, die presses, embossers, and hook compressers, rounding out the Seybold complete line.

[SEYBOLD]

HARRIS-SEYBOLD-POTTER

Obituary

E. A. Wallberg

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., April 8, 1929.—The death of Emil Andrew Wallberg, the Swedish-Canadian civil engineer, who fought his way to power and affluence through the designing, construction and operation of pulp and paper and other industrial plants all over Ontario and Quebec, occurred on March 30 at Battle Creek, Mich., acccording to word reaching Toronto this week. He lived at 145 Warren road, Toronto, and his offices are in the Royal Bank Building.

Emil Andrew Wallberg was born in Sweden on January 27, 1868, and at the age of seven years was taken to the United States by his father, who was a civil engineer of some standing in Sweden. Landing at New York they went almost immediately to Clinton, Iowa, where the elder Wallberg established an engineering practice. The practice prospered, and Emil was able to attend the University of Iowa and later take post-graduate courses at the Massachusetts Institute of Technology in Boston. In 1892, at the age of 24, he selected Montreal as the place for him to start his career. He opened offices as an engineer, and for three or four years was successful through specialization on the construction designs for new structural steel buildings. He found this, however, inadequate for his ambitions, visions and energy. He wanted not only to design great buildings and plants and industrial enterprises for other people, but to plan, build and operate them himself, keeping financial control if he could.

At the end of a few years as an engineering specialist, he struck out for himself in the general contracting business, with little capital and few prospects, but with unlimited hope and determination. He was aided by several influential men in Montreal, and before long landed his first big contract in the shape of an order to design and construct the Moncton shops of the Intercolonial Railway Company. From then on his success was assured, and he carried out similar enterprises throughout the East. His earlier projects included the design and construction of the Northern Ontario power plant at Cobalt, which he sold to the Northern Canada Power Corporation of Canada. He also built the Laurentian power plant on a site 45 miles east of Quebec, and sold it to the Shawinigan Water and Power Company.

He established the Lake St. John Power and Paper Company, and later turned to other industrial enterprises. When the war broke out he had just completed building at Leaside a big plant to be operated by his Canada Wire and Cable Company. He had become a naturalized Canadian, and he felt the necessities of war attracting his genius for design and operation toward the manufacture of munitions and other war supplies. Later, at the request of the United States government, he built a plant as large for the manufacture of 12-inch shells for United States guns. The plant had just got into production when the armistice was signed and after some negotiations W. C. Durant agreed to make automobiles in it. The Toronto Durant Company was formed with Mr. Wallberg as president and holding a large block of stock. The Canada Wire plant was reconverted to its original function.

Mr. Wallberg was a member of many of the leading clubs in Toronto.

Against Increased Tariff on Casein

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., April 8, 1929.—With the future existence and development of their industry seriously threatened by the proposed increase in the tariff on casein, manufacturers of coated paper in the Kalamazoo River Valley district met Thursday of last week at the Park Club to marshal their forces against the measure, which will come up for consideration at the next session of Congress. It will be fought out under the measure of farm relief, in which it is proposed, among other things, to increase the tariff on casein from 2½ to 8 cents a pound.

In this fight which has already taken on nationwide proportions, it was pointed out that Michigan is the pivotal state in the Union and Kalamazoo the community most vitally affected. Michigan uses 25 per cent of the casein consumed in the United States and Kalamazoo and environs fully 90 per cent of the state's total.

Figures available show that the present casein levies an added cost of $272,000 from the Kalamazoo Valley mills. If the tariff is increased from 2½ to 8 cents a pound, this levy will then advance to $872,800, or better than 15 per cent on the total value of coating mill properties.

Present at the conference, in addition to local manufacturers, were Representative Joseph L. Hooper, Battle Creek, congressman from the Third Michigan district and Frederic W. Hume, New York. Congressman Hooper said he recognized the importance of this measure and that it is far and away the most important matter he has on his hands at this time and that it will receive his closest attention until finally disposed of.

Felix Pagenstecher, president of the Bryant Paper Company, briefly reviewed the local situation. He said there are six concerns in the valley engaged in the manufacture of coated paper and that coated paper plant investments amount to $5,269,908.52. There are 1,817 employees and 2,354 stockholders directly interested in the maintenance and continuance of this industry here. The value of the coated paper made here is about $15,000,000 annually.

Mr. Pagenstecher said there were 5,455 tons of casein used in the valley in 1928, which now pays a duty of $50 a ton. He pointed out that any increase in this duty will work a distinct hardship to the industry.

"The coated paper market is a highly competitive one," he said. "Any added costs cannot be passed on to the consumer. In fact a review of the past five years shows that while the cost of casein has been steadily advancing the price of coated paper had been falling.

"State department reports show that in 1927 there were over 4,000,000,000 pounds of milk produced in Michigan and 267,000 pounds of casein made in this state. Milk is priced on the basis of butter fat content. State reports further show the manufacture of skimmed milk into casein is one of the least profitable uses for which it can be employed. Michigan at this time is not making enough casein in a year to run the Kalamazoo Valley coating mills a week."

It was generally admitted that Kalamazoo must be on hand when the casein measure is considered at Washington and President Alex G. Gilman named F. M. Hodge, president of the Kalamazoo Paper Company; Felix Pagenstecher, president of the Bryant Paper Company and W. M. Loveland, president of the Watervleit Paper Company as a committee to visit Washington at the time and act under directions of Congressman Hooper and Mr. Hume. Alex G. Gilman, as a member of the national committee from the coated paper interests will also be present.

Those present at the meeting in addition to Congressman Hooper and Mr. Hume were: Alex G. Gilman, A. L. Pratt and G. S. Davis, Allied Paper Mills; F. M. Hodge and A. E. Curtenius, Kalamazoo Paper Company; Merrill B. King and Harry C. Bradford, Rex Paper Company; W. M. Loveland and George Ferguson, Watervleit Paper Company; Felix Pagenstecher and C. A. Fox, Bryant Paper Company; and George Gilkey and Carl Handy, Michigan Paper Company.

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[FROM OUR REGULAR CORRESPONDENT]

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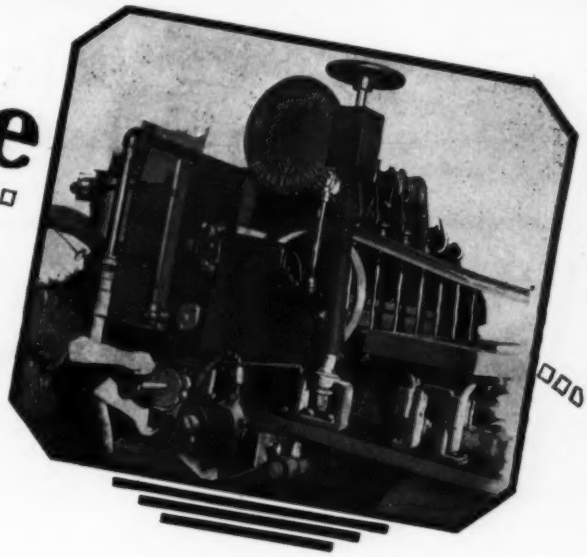
Not a Minute is Lost

in placing Apron on Wire!



Just a slight turn of a handle—without stopping the machine—and the operator regulates placing apron on the wire. This is one of the new, distinctive and exclusive features of the 1929 Voith Inlet—another reason for its wide acceptance by paper mills.

Every minute saved is money earned. Continuous operation—running the machine while various operating changes are being made is added production.

Regulating placing the apron on the wire now is accomplished without losing a minute in production time.

This feature and the deckling-in device are both distinctive advantages that make for greater efficiency and production. The deckling-in device can be supplied for present Inlet installations.

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Power Plant Section

Reducing Power Costs Through Unit Treatment

Conducted by Reginald Trautschold, Consulting Engineer

Rational Selection of a Feed Water Treatment

By C. E. Joos, Engineer, Cochrane Corp.

The high pressures at which boilers are now being operated demand that more attention be paid to the preparation of boiler feed water than heretofore. The use of chemicals and boiler compounds, for instance, in a more or less indiscriminate way, while it may have been permissible with low pressures, can no longer be countenanced, for under the new order of things, boiler feed water must be prepared scientifically, not only in regard to the character of the water entering the boiler but also in respect to the reactions and chemical changes which take place within the boiler.

The preparation of boiler feed water, in brief, may be classified under the general headings filtration, softening and evaporation but these processes need considerable elucidation to mean very much particularly as regards the effect attained. For instance, filtration alone is of comparatively little benefit with the average boiler feed water supply unless the water is naturally soft and non incrusting. Filtration removes suspended matter only, which, while it may give some relief can only be partially corrective. It is, however, an important part of the treatment in connection with zeolite softeners, for which clear water is imperative.

Similarly, while evaporators have gained some acceptance in central stations and in industries where the makeup is small, their use is not a panacea for all boiler feed water troubles. Where surface condensers are used, scale in the boilers may result from leakage of circulating water into the condensate. Even if the condensers do not leak and the evaporators do not prime, which may happen even under the most ideal conditions, chemical treatment by means of some alkali, such as caustic soda or tri-sodium phosphate to prevent the solution of boiler metal in the boiler water should be considered.

The formation of scale in the evaporators themselves has in many cases proved quite as troublesome as the scale that otherwise would have formed in the boilers, and the use of softeners to treat the water ahead of the evaporator is often a paying investment.[1] So, regardless of what method of preparing boiler feed water is selected, some consideration should be given to the introduction of chemicals and to the action of these chemicals within the boiler.

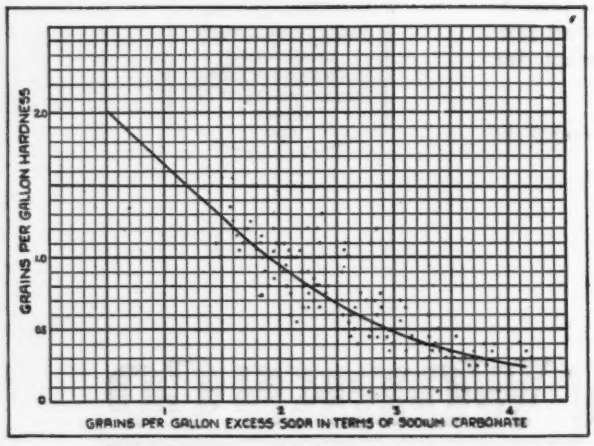

FIG. 1
Increasing Excess Soda (measured as Sodium Carbonate) Reduces Hardness.

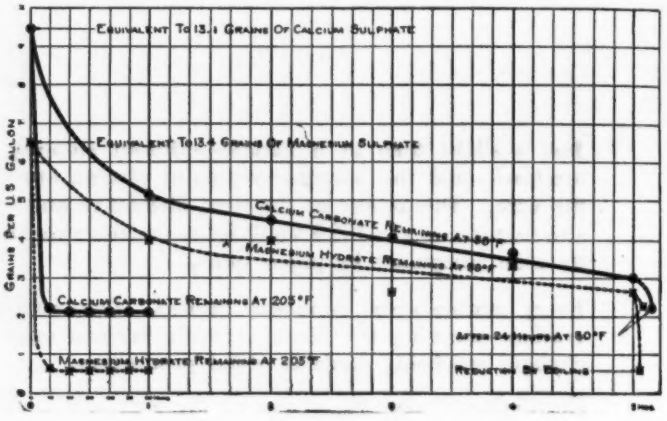
EQUIVALENT TO 13.1 GRAINS OF CALCIUM SULPHATE
EQUIVALENT TO 13.4 GRAINS OF MAGNESIUM SULPHATE
CALCIUM CARBONATE REMAINING AT 80°F
MAGNESIUM HYDRATE REMAINING AT 80°F
CALCIUM CARBONATE REMAINING AT 205°F
MAGNESIUM HYDRATE REMAINING AT 205°F
AFTER 24 HOURS AT 80°F
REDUCTION BY BOILING
GRAINS PER U.S. GALLON

FIG. 2
Value of Heat in Softening Water.

In the selection of a softening process, whether it be for a small amount of make-up, for 100 per cent make-up or even for the preparation of water for evaporators, safety in boiler operation requires careful study of the following factors in connection with the softened water:

Degree of remanent hardness,
Corrosiveness of the water,
Reduction in total dissolved solids, and suspended matter,
Protection against embrittlement of boiler metal,
Cost of treatment, including blowing down.

Degree of Permanent Hardness

The degree of hardness of the treated water is important up to a certain point, because it is desirable to keep the boiler water fairly free of suspended matter, due to the concentration and consequent precipitation of the hardness remaining in the water after treatment. With any system of precipitating hardness by chemical treatment, such as the cold or hot lime and soda method, the reduction in hardness depends upon the excess of chemicals used. With a hot process softener, for example, the use of 1½

[1] Study C—Economic Value of Lime Soda Softening Preliminary to Evaporators; *Mechanical Engineering*, Mid-November, 1926.

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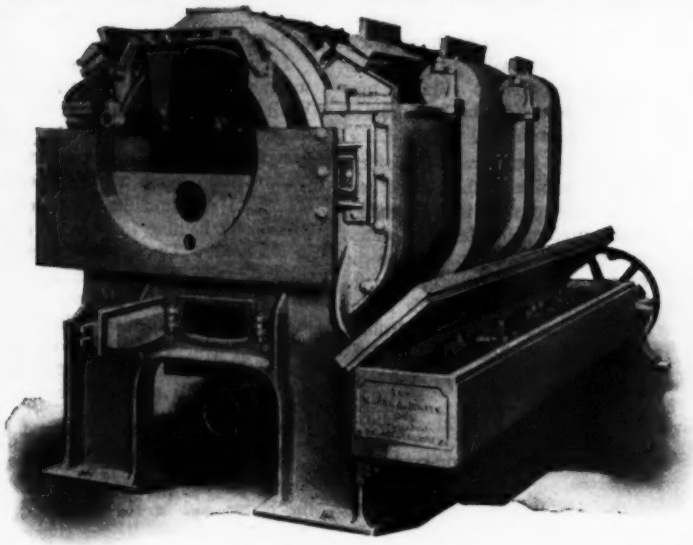

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grains excess of sodium carbonate reduces the hardness to 1½ grains per gallon. By increasing the excess of chemical by 1 grain, the hardness reduced by ½ grain. The curve of Fig. 1 showing the relation between hardness and excess soda in water from a hot process softener is plotted from a great many readings determined by actual tests. With a cold process softener, the hardness is not removed so completely, for heat is a great accelerator of chemical reactions. Figure 2 shows the effect of heat upon the rate of completion of softening reactions. While in cold water the hardness is not so completely removed as in hot water, the rule of excess chemical still holds.

With the zeolite, or exchange, type of softener, the reduction in hardness depends upon a number of factors, such as the amount of hardness initially present in the water, the amount of sodium salts initially present and the point in the run, that is, whether the sample is taken immediately after regeneration or immediately before regeneration. A water high in sodium salts presents difficulty in softening by means of the zeolite process. This is also true with a water initially high in hardness, for the hardness of the effluent is likely to be higher than is ordinarily expected.

For boiler feed purposes, the hot process lime and soda softening method will produce water low in hardness when using low excess sodium carbonate, since the excess of soda is independent of the amount of hardness initially present in the raw water. The zeolite softener, under similar circumstances, may make the water somewhat softer, but the excess sodium carbonate is generally much higher. The essential difference is that with a hot process lime and soda softener the excess soda can be controlled, whereas with the zeolite softener the only method of controlling excess soda is a pretreatment with lime or an after-treatment with acid.

Corrosiveness of Water

It is highly important that boiler feed water be non-corrosive, so in designating or selecting a water supply for boiler feed purposes it should be borne in mind that not only are the boilers to be protected but also the economizers, if any, the steam lines, the condensate return lines, etc. Very frequently a water may be non-corrosive so far as the boiler itself is concerned and yet be very corrosive to steel tube economizers and condensate return lines.

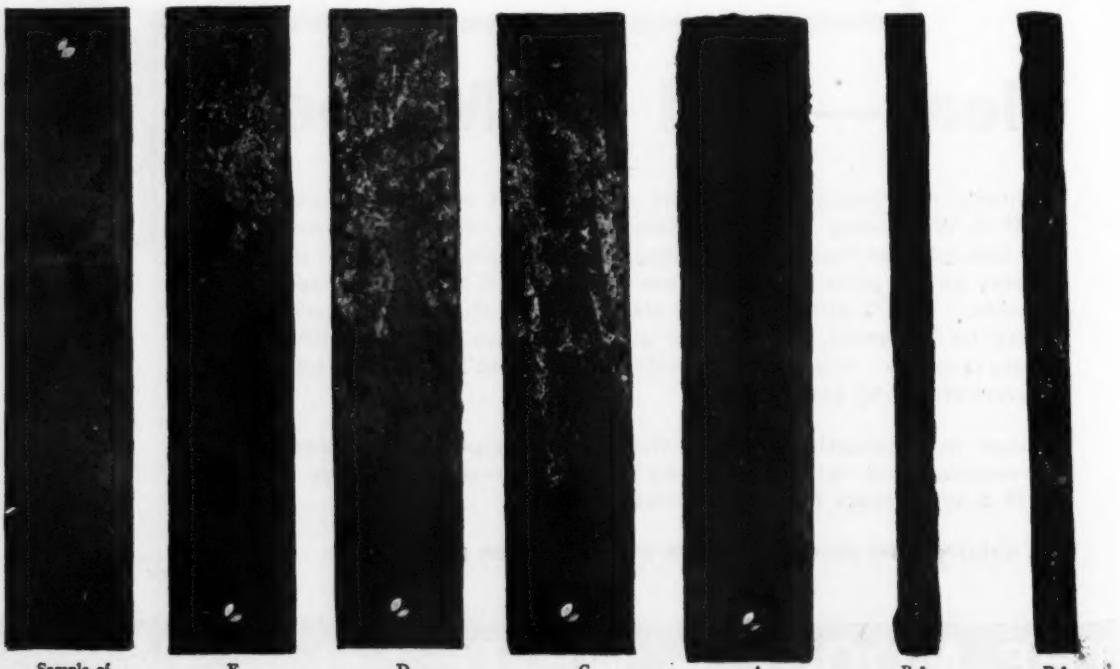
The nearly ever present cause of corrosion is due to oxygen in solution, the activity of oxygen seeming to be further increased by association with CO_2. That system of softening which reduces the dissolved gases to minimum will, therefore, be most effective in combatting corrosion.

In the hot process lime and soda softener, the water is first heated to within two to five degrees of its boiling point. If the heater is of the jet or the standard open type, the oxygen is reduced to 0.2 to 0.5 cc. per liter. By the use of a deaerating heater, it can be reduced to practically zero, and the addition of lime after the heating gives assurance that no CO_2 will remain in solution.

The oxygen and CO_2 content of water leaving a hot process softener, therefore, can be reduced to as low a value as desired. With a zeolite softener, on the other hand, the original content of oxygen and CO_2 is carried through the process of softening, except that the CO_2 gas, instead of being held in the form of calcium and magnesium bi-carbonate, takes the form of the bi-carbonate of sodium. In the latter form it will not be released by subsequent heating in an oven or deaerating heater, but will pass to the boiler. Under the influence of heat in the boiler, however, the sodium bi-carbonate releases the CO_2 and if there is the slightest trace of oxygen present there is apt to be serious corrosion, if the temperature should happen to fall much below the boiling point. Rapid deterioration of boiler equipment is apt to result. Fig. 3 illustrates the results of low feed water temperatures in connection with zeolite softeners.

Reduction in Total Dissolved Solids and Suspended Matter

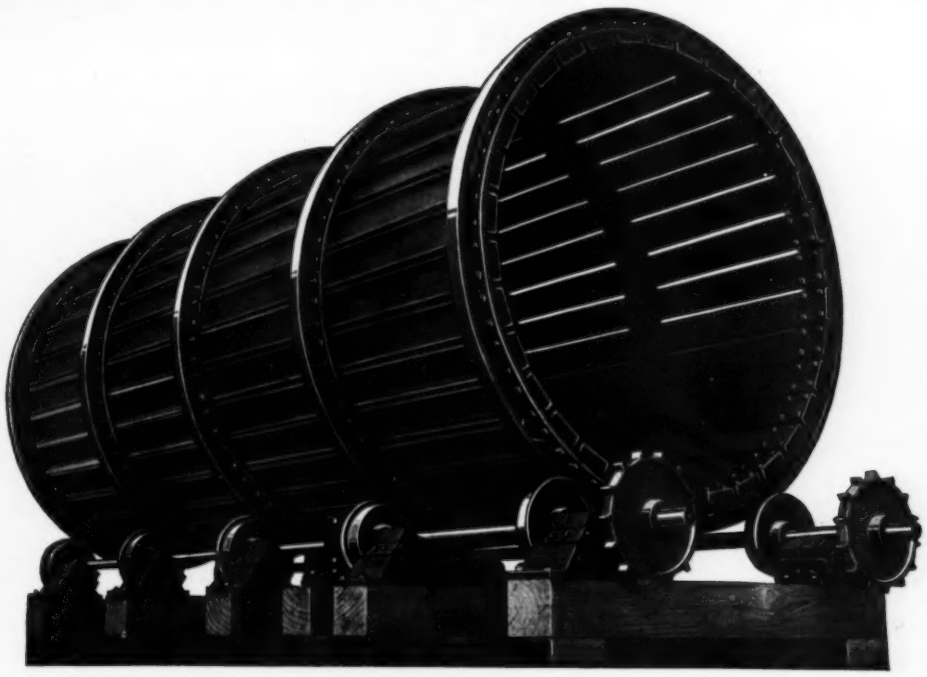
The amount of solids fed to a boiler greatly influences the cleanliness and dryness of the steam. The fewer solids present, the better will be the steaming, for priming and wet steam are determined largely by the concentration of solids. Certain kinds



Sample of Metal Before Placing in Position for Test | E From Rear End of No. 1 Boiler Drum | D From Middle of No. 1 Boiler Drum | C From Front End of No. 1 Boiler Drum | A From Feed Water Heater | B-3 From Feed Water Pump Discharge | B-1 From Weir Chamber

FIG. 3

Showing composition of samples placed at various locations in feed water circuit.



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of organic matter, oils, etc., have much the same effect. With certain water supplies, any kind of water softening process will increase the total solids. On the other hand, with other processes the solids may be reduced, and, again, there will be a difference in the reduction of total solids obtainable with the various softening methods.

It is obvious that the softening method best suited for one set of conditions may be quite unsuitable for a different set of conditions. For instance, consider the analyses given below of the effluent from a hot process lime and soda system and from a zeolite system both treating water from the same supply. These analyses show clearly that the total solids resulting from the zeolite softener amount to practically three times those from the hot process lime and soda softener. With another supply, this difference might not be so marked, in fact the situation might be reversed.. However, the point to be stressed is that the reduction in solids is one of the most important considerations in the selection of the softening system.

GRAINS PER U. S. GALLON

	Raw	Treated by Zeolite	Treated by Hot Process
Calcium carbonate	10.9	0.2	1.0
Calcium sulphate	1.4	..	..
Sodium chloride	Trace	0.7	Trace
Magnesium carbonate	6.3	0.3	0.50
Silica	0.5	..	0.50
Ferrous carbonate	0.2	0.2	..
Sodium Sulphate	1.1	2.6	2.56
Sodium silicate	..	1.4	..
Sodium carbonate	..	11.9	1.50
Total solids	..	17.2	6.06
Iron and alumina	..	..	..

Protection Against Embrittlement

Embrittlement of boiler plate has come to be one of the important problems in the correction of boiler feed water supplies. It manifests itself in development of intercrystalline cracks in the dry face of the plate, customarily below the water line. These cracks, as they develop, weaken the boiler structure and if not discovered in time may result in serious consequences. Professors Parr and Straub, in Bulletin No. 177 of the University of Illinois, describe the phenomena quite fully. Briefly, their conclusions are that the best protection against embrittlement is had by introducing inhibitive agents, such as sulphates or phosphates in proper quantities. The A. S. M. E. Boiler Code gives a tentative rule that for boiler pressures up to 150 lbs. per sq. in. the ratio of sodium sulphate to alkalinity expressed as sodium carbonate should be 1 to 1; for boiler pressures up to 250 lbs. the ratio should be 2 to 1 and above 250 lbs. the ratio should be 3 to 1.

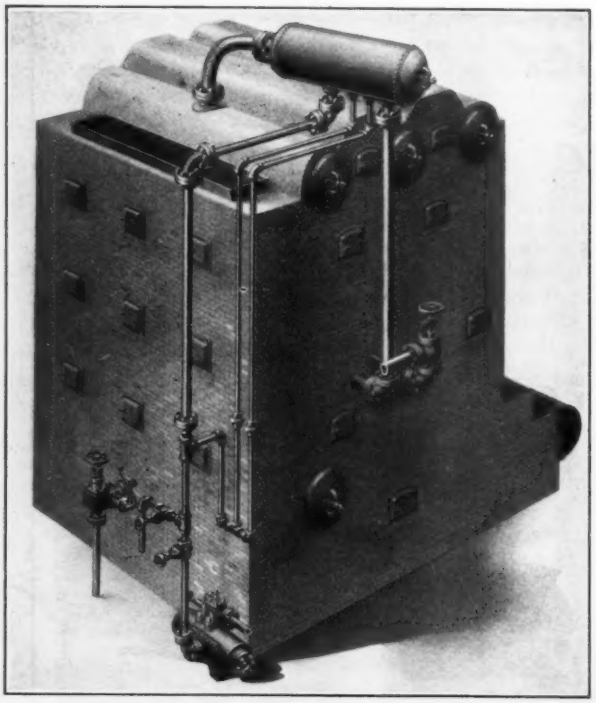

FIG. 5
External Type Steam Purifier as Installed Between Steam Drum and Superheater.

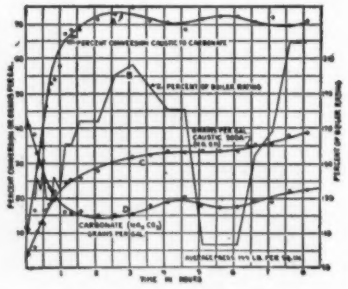

FIG. 4
Conversion of Soda Ash to Caustic Soda in Boiler.

Recent work by Parr and Straub indicates that these ratios may be further increased, so that for 400 lbs. pressure, the ratio of sodium sulphate to sodium carbonate should be as high as 6 to 1. A water softening system for boiler feed work should reduce the alkalinity as low as practicable, in order to prevent scale and corrosion and, at the same time, should give a proper ratio of sulphates to soda for protection against embrittlement.

Cost of Treatment, Including Blow Down

The cost of water treatment is particularly significant in large plants. A water softener which uses expensive chemicals and at the same time gives a high total content of solids will lead to high over-all costs of operation, since in addition to the costs of chemicals the amount and cost of blowing down is determined by the type of water softening system. For example, while the lime and barium system may give a very low total content of solids, and, consequently, a small percentage of blow down, the chemical costs will be so high as to make the method prohibitive. To illustrate the results which may be expected with the various systems commonly used for boiler feed preparation, the following tabulation of the analyses resulting from the treatment of a raw water typical of the Middle West is given

GRAINS PER U. S. GALLON

	Raw Water	Hot Process	Zeolite	Cold Process	Lime Barium
Calcium carbonate	7.29	1.00	0.30	2.00	1.50
Calcium sulphate	9.97	None	None	None	0.50
Magnesium carbonate	4.95	0.50	0.20	1.00	1.00
Magnesium carbonate	4.95	0.50	0.20	1.00	1.00
Silica	0.64	0.64	0.64	0.64	0.64
Iron oxide and alumina	0.12	None	0.12	0.00	None
Sodium sulphate	...	10.40	10.40	11.93	None
Sodium chloride	2.45	2.45	2.45	2.45	2.45
Sodium carbonate	None	1.50	13.62	2.50	...
Volatile and organic	2.96	1.00	2.96	1.00	1.00
Total solids	22.52	17.49	30.69	21.52	7.09
Treatment lbs. per 1,000 gallons					
Lime		2.22		2.48	2.22
Soda ash		1.33		1.63	
Salt			10.25		
Barium carbonate					2.62
Ferrous sulphate				0.43	
Cost of treatment per 1,000 gallons		3.66c	5.12c	4.82c	8.22c
Cost of blow down on basis of 250 grains per gal. at 150 lb. per sq. in., 70 per cent boiler efficiency, coal $5 ton, 14,300 B.t.u./lb.—60 deg. F. feed		4.85c	9.03c	6.05c	1.88c
Total cost of chemicals and blow down		8.51c	14.15c	10.87c	10.10c
Ratio sodium sulphate to sodium carbonate		6.93	0.76	4.77	...
Per cent blow down		7.0	12.3	8.6	2.48

Even if the water is not to be used in boilers directly, but in an evaporator, the same precautions should be observed in the selection of the softener, for the evaporators are apt to prime and the solids carried over by priming show up in concentrated form in the boilers. Frequently, if the water is initially high in carbonates

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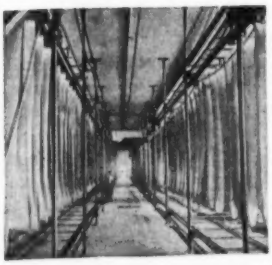

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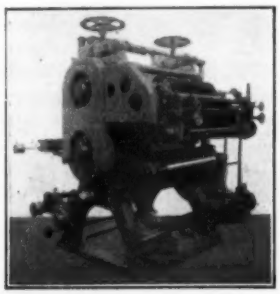

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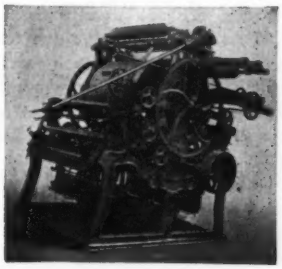

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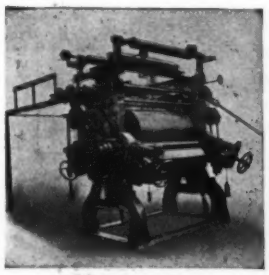

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and is treated in a zeolite softener, an unfavorable ratio of sulphates to soda may exist in the concentrated boiler water, necessitating the introduction of more sulphates within the boiler. Such treatment, at high pressures, may result in scale and require supplementary chemical treatment to prevent scale formation.

Phosphate Treatment

The methods of treatment boiler feed that are satisfactory for low pressures are not at all satisfactory for high pressures, as above 300 lbs. per sq. in., for two reasons. The first of these is that the conversion of soda ash to caustic soda at high temperatures makes it necessary to carry a high alkalinity and, consequently, a prohibitive amount of sodium sulphate for the prevention of embrittlement. If the A. S. M. E. recommendations as to embrittlement were followed with water treated by means of a lime and soda softening system or by a zeolite softening system, a hard, adherent calcium sulphate scale would form. In the softening of water for low pressures, soda ash is the ingredient commonly carried in the boiler feed water as excess alkalinity.

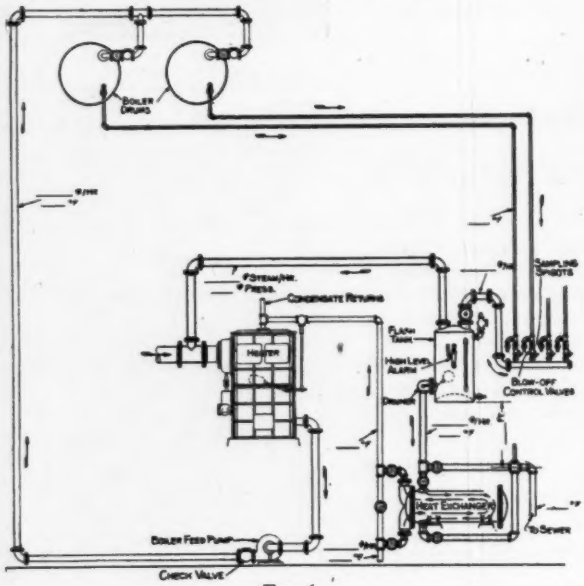


FIG. 6
Cochrane Continuous Blow-off System.

If we could depend upon the soda-ash remaining intact within the boiler, there would be no special problem with high pressure boilers, but when soda-ash is subjected to high pressures and temperatures it breaks up into caustic soda and CO_2 gas. The caustic soda remains in solution in the boiler water, while the CO_2 gas is carried away with the steam. The amount of conversion that takes place depends chiefly upon the boiler pressure and temperature. With increased pressures the amount of conversion increases. At 150 lb. gage, the amount of conversion of soda ash to caustic soda is approximately 75 per cent.; at 300 lbs. it is approximately 82 to 85 per cent.; at 400 lbs. per sq. inch, the conversion will be in the neighborhood of 85 per cent. and above.

Fig. 4 illustrates the progressive conversion of soda ash to caustic conversion at 145 lbs. pressure. The figures are taken from a test made with a boiler filled with freshly softened water, into which was introduced an additional quantity of soda ash to secure an initial alkalinity.

In addition to the transformation of the excess sodium carbonate occurring at high temperature, calcium sulphate becomes increasingly insoluble with increased temperature, so that just when the carbonate radical is needed the most, *i.e.*, at high pressures, it is present in the least amount, so that in order to prevent the formation of calcium sulphate scale, it will be necessary to have present within the boiler water enough carbonate radical to maintain the calcium as calcium carbonate in the concentrated boiler water. If it is attempted to soften water for high pressure boilers with soda ash alone, it is necessary to maintain an excessively high alkalinity and an extravagant blow down schedule in order to give sufficient assurance against the formation of calcium sulphate scale.

The solution to this problem, therefore, lies in the use of a softening chemical which is not subject to disintegration, as is soda ash. Such a chemical has been found in the phosphates. These, while more expensive than soda ash, are necessary for the treatment of water for high pressure boilers. The advantage of phosphate is that under the influence of heat and pressure, the PO_4 radical does not disintegrate, and, consequently, almost all of the phosphate introduced into a softened water is available for the prevention of calcium sulphate scale. By maintaining sufficient phosphate within the boiler, there is definite assurance of the prevention of calcium sulphate scale, regardless of the pressure. Hot process lime and soda softeners have been supplied with a supplementary feed of phosphate to treat the feed water used in boiler plants operating at 650 lbs. pressure. These should be no hesitancy in treating water with phosphate at any pressure which the engineering profession may decide to use. To Dr. R. E. Hall should be given the credit for pointing out the advantages of phosphate treatment of water for high pressure boilers.

To treat water in hot process softeners with the phosphate chemical would be prohibitive, as the phosphates react with calcium and magnesium carbonates to form the corresponding phosphates and soda ash as a by-product. The phosphate radical which it is desired to have in solution in the boiler water would be precipitated out in the softener, requiring excessive alkalinity in order to carry over sufficient PO_4 radical in solution to prevent the formation of scale. Generally speaking, the only practicable method of using phosphate in connection with water softening systems, whether they be of the lime and soda process or the zeolite exchange process, is to feed the phosphate chemical into the water after it has been softened. In this way, the greatest benefit will be had from the soluble PO_4 radical, while at the same time utilizing inexpensive chemicals to remove practically all of the incrusting solids. By introducing the phosphate in this way, only a small quantity of chemical will be taken from solution, according to the hardness in the treated water.

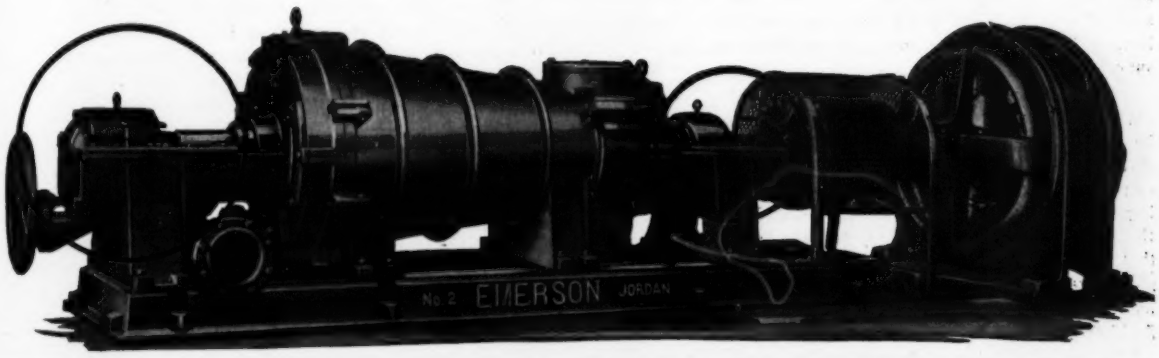
Another advantage of the phosphates is that they can be used in several different forms, namely the tri-sodium phosphate, the di-sodium phosphate and the mono-sodium phosphate or phosphoric acid, indicated by the following formulæ:

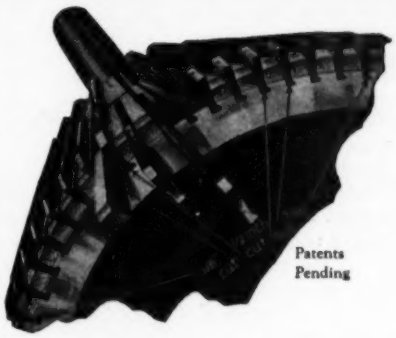
$$Na_3PO_4; \quad Na_2HPO_4; \quad NaH_2PO_4; \quad H_3PO_4$$

The use of tri-sodium phosphate will result in higher boiler alkalinity than will the use of di-sodium phosphate and the use of di-sodium phosphate will result in higher alkalinity than will the use of mono-sodium phosphate. The advantage of a supplementary phosphate treatment is, however, that sufficient PO_4 radical may be maintained in the boiler water without necessarily maintaining a high alkalinity. With the use of soda ash it is impossible to maintain a high CO_3 content at high pressures without a high alkalinity.

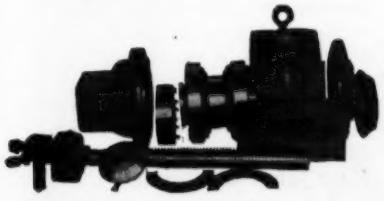
In order to escape the high ratios of sodium sulphate to alkalinity recommended for the prevention of embrittlement, another inhibitor has been sought, and it so happens that the sodium phosphates offer good promise of doing everything that could be expected of the sulphates. Laboratory tests have indicated that the phosphate radical in the boiler water is 1500 times more effective in inhibiting embrittlement than are the sulphates. If practice substantiates the laboratory findings, it is evident that the phosphate treatment may come into general use as a substitute for sulphates in preventing embrittlement. Being 1500 times more effective, a lower concentration of total solids can be maintained, while at the same time getting the same protection that sulphates confer against embrittlement.

The EMERSON JORDAN *equipped with the* Bolton BANDLESS Plug





Showing construction of the Bolton Bandless Plug. Knives and woods cannot come out. *NOTE INVERTED EDGES.*



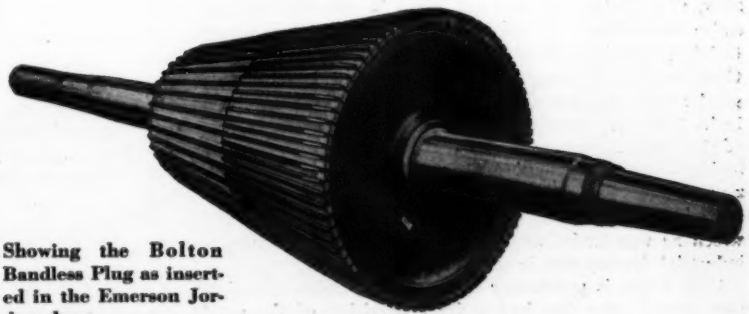
Detail of Timken end bearing which takes care of both radial and thrust.

Now every Emerson Jordan offers you the tremendous advantages of the Bolton BANDLESS Plug and Timken Roller Bearings.

These two great features put the Emerson Jordan in a class by itself for unit control, lasting satisfaction and true economy. No other Jordan has these great construction advantages.

Make sure of all the benefits and savings that result from these two wonderful improvements in Jordan engineering. Standardize on Emerson Jordans.

Write for full information and estimates



Showing the Bolton Bandless Plug as inserted in the Emerson Jordan above.

The EMERSON MANUFACTURING COMPANY

LAWRENCE ∞ ∞ ∞ MASSACHUSETTS

DIVISION OF JOHN W. BOLTON & SONS, Inc.

3685

Clean Dry Steam

With the high ratings now becoming general, the tendency to wetness and contamination of the steam becomes greater. It is not uncommon for plants running at high ratings with distilled water makeup to show a high content of moisture in the steam. Naturally with a high concentration of solids in the boiler water the contamination becomes more pronounced.

When a boiler operating at high rating suddenly loses its load, the steam bubbles through the water space disappear and consequently the water level falls. This brings the feed water regulator into play, filling the drum up to its normal working level. When the load again comes on, the water level will rise and water probably carried out with the steam. Under such conditions, contamination of the steam is unavoidable and the use of a receiver type external steam purifier is the only method by which trouble in superheaters, turbines, engines, etc due to impure steam may be avoided satisfactorily. Fig. 5 illustrates how such a steam purifier is arranged between the saturated outlet of the boiler and the superheater inlet.

Continuous Blow Down

Priming due to concentration of solids in the boiler water can be helped considerably by maintaining a lower concentration through the use of a continuous blow down system. A continuous blow down is favored over the intermittent method of blowing down by means of the customary blow off valve because, with the continuous blow down, it is feasible to recover the heat, so that the blowing down incurs no appreciable loss of heat, while giving the benefit of operating at low concentrations. Fig. 6 illustrates an arrangement for continuous blowing down, using the flashing principle.

The rate of blowing off is regulated by means of a forged steel needle valve and the blowdown water is flashed in a specially baffled flask tank so that pure steam is delivered to the open heater. The blow down water remaining after flashing is then taken through a heat exchanger, giving up heat to the incoming coal water. With this method nearly all of the heat is recovered and the blow down water which flashes into the steam is recovered as distilled water. Where surface heat exchangers are used exclusively this advantage is not realized. However, the arrangement of heat recovery equipment may be modified according to local conditions.

St. Regis To Move Departments To New York

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., April 8, 1929.—Announcement is made that the traffic and engineering departments of the St. Regis Paper Company in this city will be moved to New York City during the latter part of this month. When the change becomes effective the only departments left in this city will be those directly associated with the mills. Corwin T. Jewell, general manager of the mills, will continue to have his offices in this city and will have entire supervision of the remaining departments. Joseph A. Quinlan, who is head of the traffic department of the St. Regis Company and its associated concerns, has made an exceptionally good record and has done much to benefit Northern New York in its fight for lower freight rates. He has served as chairman of the traffic committee of the Watertown Chamber of Commerce besides representing that organization in a number of cases. About a year ago he was honored at a banquet at the Black River Valley Club by the Northern New York Development Association at which he was lauded as one of the greatest benefactors towards industrial development in this section.

J. B. Eakin is purchasing agent for the company and for the past several years has had entire supervision of the purchasing department. Leo Bowker has assisted him in conducting business affairs while several others are also employed in minor roles in the department. Mr. Eakin came to this city from Montreal where he was previously identified in a similar capacity with a paper concern in that city.

Brotherhood To Hold Wage Conferences

ALBANY, N. Y., April 8, 1929.—Representatives of labor unions identified with the International Brotherhood of Papermakers will start conferences with paper manufacturers relative to the signing of new wage and working agreements on April 8 when a meeting will be held at Thorold, Canada, with officials of the Ontario Paper Company. Many wage and working agreements with paper firms expire on May 1 and it has been announced at Brotherhood headquarters that no increase in existing wage schedules was being demanded. Following the initial conference at Thorold another meeting will be held the following day with the Daily News Corporation at Tonawanda. W. R. Smith, president of the Brotherhood, is exceptionally busy mapping out a schedule of the various mills which will be visited by the union representatives during April.

The schedule calls for a conference with officials of the Union Bag and Paper Corporation, at Hudson Falls on April 19 and a similar one with the Gilman Paper Company at Gilman, Vt., on April 29. No definite date has been fixed for a meeting with officials of Finch, Pruyn & Co. at Glens Falls, it being announced that word had been received to the effect that the president of the firm, Maurice Hoopes, is now in the South. It is believed, however, that a conference will be held early in May. The same situation prevails in connection with the Advance Bag and Paper Company at Howland, Me., where the president, J. E. Kelly, is on an extended vacation. Several of the mills have written to President Smith asking that the present agreements be continued on the same basis as that existing during the past year. This concession can be granted by President Smith if the local in the mill town where the company is located feels satisfied with terms.

Announcement was made here that the Northern New York district council meeting of the International Brotherhood of Papermakers would be held at Gouverneur on April 14. Frank P. Barry will preside in his official capacity as president of the council and principal addresses will be delivered by William R. Smith and J. P. Burke, of Fort Edward, president of the pulp, sulphite and paper mill workers' union.

Carlisle Interests Plan Further Expansion

[FROM OUR REGULAR CORRESPONDENT]

OSWEGO, N. Y., April 8, 1929.—Announcement of further industrial expansion of the Carlisle interests in this city is looked for at a meeting and banquet in honor of Floyd L. Carlisle which will be held here on April 17 under the auspices of the Oswego Chamber of Commerce. At this meeting it has been announced that Mr. Carlisle would make an important announcement concerning plans for industrial work to be done here in the immediate future.

It is understood that some of his plans relate to enlargement of the paper bag industry here as the result of the recent acquisition by the Carlisle organization of the Bates Valve Bag Corporation of Chicago. Expansion plans are reported to include erection of a new plant which will afford employment to a large number of skilled hands. However, no official information will be given out until the visit of Mr. Carlisle is concluded.

During the past month officials of the St. Regis Company and the Bates organization have made visits to this city inspecting the Taggart plant and looking over property adjacent to it presumably with the idea of building additional plants.

New Jones Catalogue

The W. A. Jones Foundry and Machine Company, manufacturers of speed reducers, cut gears, pulleys and general power transmission machinery, has just issued a new general catalogue called the Jones Blue Book: Catalogue No. 42. The book of nearly 500 pages contains complete listing of its line of manufacture, and practical working data of every-day usefulness to any purchasing agent, engineer or production man. A copy will be sent to anyone writing for it.

A trademark that has held the spotlight of attention for 38 years—all this time designating felts and jackets that today are recognized for their *quality* and *service*—Appleton Felts and Jackets.

Let us help you with your felt problems. Our experience is at your service.

APPLETON WOOLEN MILLS
Appleton, Wisconsin

Appleton
Felts and Jackets

New York Trade Jottings

Ivar Lundbeck, technical director of the Thilmany Pulp and Paper Company, arrived in New York last Saturday from Sweden.

* * *

W. G. Mitchell, assistant to the president of Price Bros. & Co., Ltd., and his wife, are spending a three weeks vacation in Bermuda.

* * *

The Texas Gulf Sulphur Company, Inc., announce the removal of their general offices to the 31st floor of the New York Central Building, 75 East 45th street, New York.

* * *

New York and Pennsylvania Company have removed from 200 Fifth Avenue to their new offices on the fourteenth floor of the New York Central Building, at 230 Park Avenue, New York.

* * *

Oluf E. Kiaer, pulp importer, announces the removal of his offices to the 35th floor at 521 Fifth Avenue, New York. Telephones Vanderbilt 7817-7818.

* * *

The New York offices of the Northwest Paper Company, of Cloquet, Minn., have been moved from 101 Park Avenue to 52 Vanderbilt Avenue. W. H. Rice continues in charge of the office.

* * *

W. R. Bird, of the Northwest Paper Company, Cloquet, Minn., is spending several weeks in New York in the interest of his organization, promoting the various specialties manufactured at the Cloquet mills.

* * *

American Engineering Company, of Philadelphia, announce that they are removing their Stoker Division from 100 Broadway to the American Radiator Building, 40 West 40th street, New York. The new offices will be ready for occupancy about April 20.

* * *

Janet Reid Kellogg, wife of R. S. Kellogg, secretary of the News Print Service Bureau, New York, has been awarded first prize by the Milwaukee Art Institute, consisting of a Gold Letter and $100, for her painting "Piazza San Gimignano".

* * *

West Virginia Pulp and Paper Company announce the removal of their general offices from 200 Fifth Avenue to the thirteenth floor of the New York Central Building, 230 Park Avenue, New York, on April 15.

* * *

Herman M. Hess, of Hess & Densen, 129 West 20th street, New York, has been appointed chairman of the Paper Box Manufacturers Division for the Annual Maintenance Appeal of the Salvation Army, to take place May 1 to May 15.

* * *

A monument for the late Herman Lostfogel, president of the Sanitary Paper Supplies, Inc., distributors of paper and specialties, of 260 Fifth Avenue, New York, will be unveiled next Sunday, April 14, at 2 p.m., at the Union Fields Cemetary, Cypress Hills, Brooklyn, N. Y.

* * *

The Joint Committee on Approved Pulp Testing Chemists for the Paper Industry of the United States, 18 East 41st street, announces that Elmer S. Hinman, of the P. H. Glatfelter Company, of Spring Grove, Pa., has been accepted as an approved pulp testing chemist, effective April 2.

* * *

George Carter, the Public Printer, and Edward O. Reed, of the Government Printing Office, Washington, D. C., sailed from New York last Saturday for England and the Continent. While abroad they will both attend the World's Master Printers' Exposition in London, England.

The New York Association of Dealers in Paper Mills' Supplies, Inc., plans to hold its "Old-Timers' Night" at the Hotel Brevoort, New York, on Tuesday evening, April 23, when the old timers of the local paper stock industry will be honored and entertained at a dinner and vaudeville performance. The committee having charge of the event consists of: Walter H. Martens, chairman; Alfred J. Moran, Charles Passannante, Joseph Carrano, F. H. Chase and Louis Gottlieb.

* * *

Harold B. Hopkins of the Oxford Paper Company, 200 Fifth Avenue, has been appointed chairman of the Paper Manufacturers and Dealers Division for the Annual Maintenance Appeal of the Salvation Army to take place May 1 to May 15. Mr. Hopkins will appoint a committee of representative men in the paper industry who will assist him in raising a substantial contribution to the fund which will provide for the maintenance of the 47 relief and welfare institutions of the Salvation Army in Greater New York. Colonel Edward B. Underwood is the Salvation Army Officer in charge of the task of raising $560,000.00, the sum required to carry on the work during the coming year.

R. A. Balzari Addresses Paper Salesmen

"Industrial Selling" was the topic chosen by R. A. Balzari, assistant general manager of the McGraw-Hill Publishing Company, the principal speaker at the regular weekly luncheon and meeting of the New York Division of the Salesmen's Association of the Paper Industry, held at the Canadian Club last Monday. S. C. Knode, president of the association, occupied the chair in his usual efficient manner, and there was a satisfactory attendance of members and guests present.

Mr. Balzari analyzed the four fundamental principles of salesmanship, which he enumerated as follows: Marketing determination; Buying habits of the consumer; Channel of approach to the buyer; and Buyer interest. In the course of his discussion on the channel of approach to the buyer Mr. Balzari demonstrated the interesting fact that the cost of each personal contact approximated $5; each contact by direct mail, 10 cents; each contact through advertising (taking full page space), 1½ cents.

During the discussion which followed Mr. Balzari analyzed the various methods of renumerating the salesman and expressed a preference for the salary and bonus system. His excellent address was exceptionally well rendered and was thoroughly enjoyed by all present.

Open Cellophane Office in Philadelphia

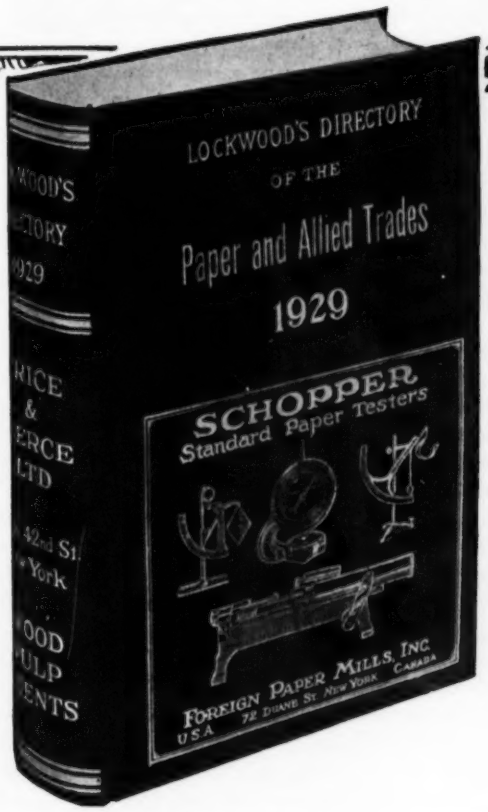
The DuPont Cellophane Company announces the opening of a branch sales office in Philadelphia to take care of the company's growing business in that territory. The office is located in the Liberty Title and Trust Building, at Broad and Arch streets.

In order to give better and more complete service to manufacturers, T. W. Holland of the New York District Sales force has been transferred to Philadelphia. V. C. Clark, present Philadelphia representative, and Mr. Holland will make their headquarters at the company's new office.

To Represent Brown-Bridge Mills

TROY, Ohio, April 1, 1929.—The Brown-Bridge Mills, manufacturers of gummed papers, will be represented in Chicago by Streeter Bush, formerly with the Central Michigan Paper Company. Mr. Bush is well known in the paper trade. Frank Binns, formerly with the Cameron Machine Company, has joined the staff of the company as a draftsman. The company has made many special improvements to its machinery and has consequently increased the efficiency of its plant.

LOCKWOOD'S DIRECTORY
OF THE
PAPER *and* ALLIED TRADES
1929 *Edition*



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Henry J. Berger
Editor

Ronald G. Macdonald
Editor Technical Section

Herbert J. Laughton
Associate Editor

Thomas J. Burke, C. A.
Editor Cost Section

Reginald Trautschold, M. E.
Power Engineering Consultant

Member A. B. C. Audit Bureau of Circulations

Vol. LXXXVIII New York, April 11, 1929 No. 15

WHAT TO DO ABOUT THE TARIFF

Paper men will be pleased to learn that Mr. H. L. Derby, long and prominently connected with the Kalbfleisch Corporation, of which he is now president, has accepted the chairmanship of the Tariff Committee of the National Association of Manufacturers. Mr. Derby and his committee are making intelligent efforts to assist Congress in re-writing section 315 of the Tariff Act of 1922, that the result may be advantageous to American manufacturers and agricultural producers.

The proposals submitted differ from the present law:—

1. In changing the formula from ascertained differences in cost of foreign and domestic production to ascertained differences in conditions of foreign and domestic competition.

2. It removes the limitation of 50 per cent within which the Executive may raise or lower a duty.

3. It permits removal of an article from the free list when the competitive condition threatens injury to a domestic industry and that industry is operated with reasonable efficiency. When the condition to which the Executive proclamation is addressed changes or passes away, the Executive, by subsequent proclamation, may make a corresponding change.

4. It gives the Executive and the Commission discretion in ascertaining the basis of values, whether by invoice or by domestic prices.

5. It requires the Tariff Commission to make a recommendation in addition to an investigation.

6. It defines similar or comparable articles in terms suggested by business experience to meet technical difficulties developed by interpretation.

Mr. Derby while having constructive views on the subject thinks that the question "What ought we to do about the tariff?" is much easier to ask than it is to answer as is evidenced by the great volume of testimony already given to the House Ways and Means Committee in an endeavor to arrive at conclusions regarding the tariff.

"We talk about tariff sometimes," says Mr. Derby, "and, less often, we vote for 'high' or 'low' at national elections and then we take what Congress gives us and get along the best way we can until we get something different.

"Of course the tariff is a subject complicated by many things, not the least being personal advantage. We can be excused for not understanding many of the technicalities but there are some very important facts about the tariff that every one ought to think about and even call to the attention of his or her representative in Congress.

"In view of legislation due from the coming special session it is well to keep in mind that the tariff can never be wholly permanent. Industrial, economic and financial conditions are changing always. That means new problems that must be met if our country is to continue to prosper, labor to be steadily and profitably employed and capital enjoy a fair return upon its investment. How can these problems be solved?

"A new tariff every six or seven years is only a makeshift, not a remedy. It is, moreover, a disturber. But we can give an increased amount of permanence to the tariff by incorporating certain principles. The tariff should not be based on schedules adopted solely because they are high or low; politics should have no place in it. Industry and agriculture should enjoy its benefits as equally as the workman, the employer and the consumer. Its main objective should be the benefit of the whole country and not that of any small group.

"Congress is, of course, the ultimate tariff maker, but if Congress is to make a good job of it it needs help. That it can get from the President and, under him, from the right kind of a Tariff Commission. They can be of the greatest service to Congress by laying before that body the facts necessary to a proper understanding of the country's needs. They can also look after tariff matters when Congress is not in session.

"The right kind of a Tariff Commission would be somewhat different from the present body. It would have to be a non-partisan group, that is, the appointees should be selected for ability instead of political affiliation and should be appointed for long terms, preferably for life, at salaries that would insure the best talent. Best of all it should be capably representative of all branches of American industry.

"Congress has delegated to the President the power to make adjustment of rates up or down within a limit of fifty per cent when necessary to equalize an established difference between a foreign and domestic cost of production. But that is not enough.

"The President should have wider power. When the Tariff Commission has laid the facts before him and he finds that differences in conditions of competition are to the disadvantage of American producers he should be able to proclaim such changes in the tariff as shall equalize these differences. The President should be empowered to base his decision upon all the facts involved in foreign costs. Such facts should be provided by the Tariff Commission.

"In effect the President and the Commission should be relied upon to keep Congress up to the mark on all tariff matters. This would permit such changes to be made from time to time as are actually needed and complete revisions would be eliminated."

DEVELOPING ASSOCIATION

The current issue of the *Weekly Business Review* of the American Paper and Pulp Association contains an announcement regarding action which is being taken by President Willson and the officers of the Association towards consummation of plans for the Association's development as contemplated in the report of its Committee on Development which was accepted by the Association

at its 52nd Annual Meeting on February 21, 1929.

Members of the Association will be gratified at this evidence of the way in which the Association's new administration is meeting its responsibility to the industry by making definite plans to increase the usefulness of the Association's service to the industry as a whole and to its individual member mills.

As indicated in the address of Mr. D. C. Everest, retiring president of the Association, at the recent annual meeting, the industry has a "pretty good association as is." Unquestionably, however, with increased support both personal and financial, the Association's service can be materially strengthened. It can be made of greater value to the industry in a practical way than has hitherto been possible because of the lack of backing sufficient to develop that service which the industry expects from its national association.

The PAPER TRADE JOURNAL wishes President Willson, his able board of directors, and Major Porter, all success in their work to develop the American Paper and Pulp Association to a point of greater usefulness to the paper industry of the United States. It is gratified to note that these men are tackling the problems of the industry with every confidence of success, providing their efforts meet with support from the industry itself.

Employment Stabilization

A report which presents in detail cases in which fact finding and fact interpretation have been used to stabilize both working forces and employment programs has just been released by the Policyholders Service Bureau of the Metropolitan Life Insurance Company.

"Employment Stabilization" is part of a study of "Better Business Through Research" in New England industry prepared by the Bureau for the Research Committee of the New England Council. All the cases studied are New England cases. No attempt has been made to cover the general personnel and industrial service activities of the companies surveyed except as they illustrate a research procedure. The examples studied cover industries of a wide range—shoes, textiles, machinery, toys, paper, silverware and other New England products. They include companies with payrolls ranging from 100 to more than 8,000 employees.

Some are located in large cities, some in country districts. A few are near their source of raw materials; others are thousands of miles from it. Some are in centers of labor supply and some are not. Because of plant location, remoteness from raw material or a dependable labor supply, the keenest of competition and other like difficulties, these companies have had to overcome real handicaps in stabilizing employment. Their use of research becomes, therefore, especially significant.

The Metropolitan Life Insurance Company will send a copy of this new report to any interested executive.

Connecticut Valley Cost Men Meet

HOLYOKE, Mass., April 2, 1929.—The March meeting of the Connecticut Valley Branch of the Cost Association of the Paper Industry was held Wednesday night at the Hotel Nonotuck preceded by a dinner. The speaker was C. O. Wellington, of Scovell, Wellington & Co., who spoke on "Standard Costs and Budgetary Control." A general discussion followed.

Soviet Union To Build Big Mill

WASHINGTON, D. C., April 10, 1929.—A report has been received here to the effect that the Soviet Union has appropriated 30,000,000 rubles to be used in the construction of a new paper and pulp mill with a capacity of 100,000 metric tons of chemical pulp and 6,000 tons of wrapping paper. The plant is expected to be ready for operation in three years.

International Stockholders Get Rights

Rights have been given to common stockholders of the International Paper and Power Company to subscribe to Class A stock of the International Hydro-Electric System. For each ten shares of common stock of the International Paper and Power Company, whether Class A, Class B, or Class C, of record at the close of business April 8, 1929, stockholders may subscribe to one share of Class A stock of the System at $43 a share. This subscription right also extends to the holders of part-paid subscription receipts for Class C common stock of the International Paper and Power Company.

The International Hydro-Electric System is a new company formed as a subsidiary of the International Paper and Power Company to control the principal electric power organizations identified with the Company. The International Hydro-Electric System will own directly over 82 per cent of the outstanding common stock of the New England Power Association, and the entire common and second preferred stocks of the Canadian Hydro-Electric Corporation, Limited. Through these subsidiaries the System will control one of the largest groups of hydro-electric properties in the world under one ownership.

Class A stock of the system carries a cumulative preferential dividend of $2 per share a year, and in addition is entitled to equal participating rights as a class with the Class B and common stocks taken together as a class. Under the announced current policy, however, stockholders may at their option, take their dividends in Class A stock at the rate of 8 per cent a year.

The operating subsidiaries of the Canadian Hydro-Electric Corporation, Limited, have entered into long term contracts with the Hydro-Electric Power Commission of Ontario and others, requiring delivery of primary power in the aggregate increasing to more than 480,000 horsepower, beginning October 1, 1931, of which 248,000 horsepower is now being delivered. In addition, surplus power is being sold to the Canadian International Paper Company under a contract which can be cancelled in whole or in part as the power is sold for other purposes. Adjusting the 1928 earnings of the properties of the System to include the revenues thus assured, but without any allowance for normal growth, earnings of the system available for dividends on Class A stock of the system are estimated at $3,844,223.

The physical properties controlled by the System will include hydro-electric generating stations with a total capacity, installed or under construction, in excess of 1,037,000 horsepower (787,100 horsepower already in operation), and 382,000 horsepower of developed steam electric capacity. For the year 1928 the total output of the system was 2,733,451,000 kilowatt hours. It is estimated that the output will reach 3,650,000,000 kilowatt hours for 1929 and 4,200,000,000 kilowatt hours for 1930.

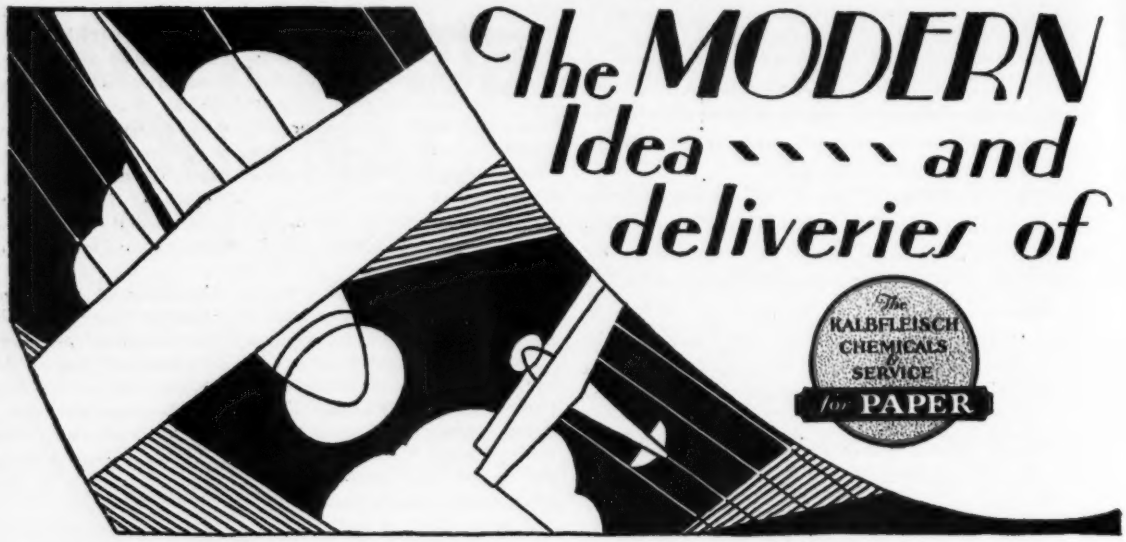
All the Class B and common stocks of the International Hydro-Electric System will be owned or controlled by the International Paper and Power Company which thus becomes one of the leading utility holding companies on this continent.

To Begin News Print Investigation

WASHINGTON, D. C., April 10, 1929.—Actual work will be begun by experts of the Federal Trade Commission within the next week or so in connection with the Schall resolution calling upon the Commission to make an investigation of the news print industry.

While no official announcement has been made it is understood that Anderson H. Tackett, an attorney of the Commission, will have direct charge of this investigation and he will be directly responsible to Herbert L. Anderson, Chief Examiner of the Commission.

Mr. Tackett has been associated with the Commission for many years and was at one time connected with the Economic Division of the Commission. He has taken part in many of the Commission's important investigations and is well thought of. At the outset he will have only one or two men associated with him in order that available data may be tabulated before making any kind of a field investigation.



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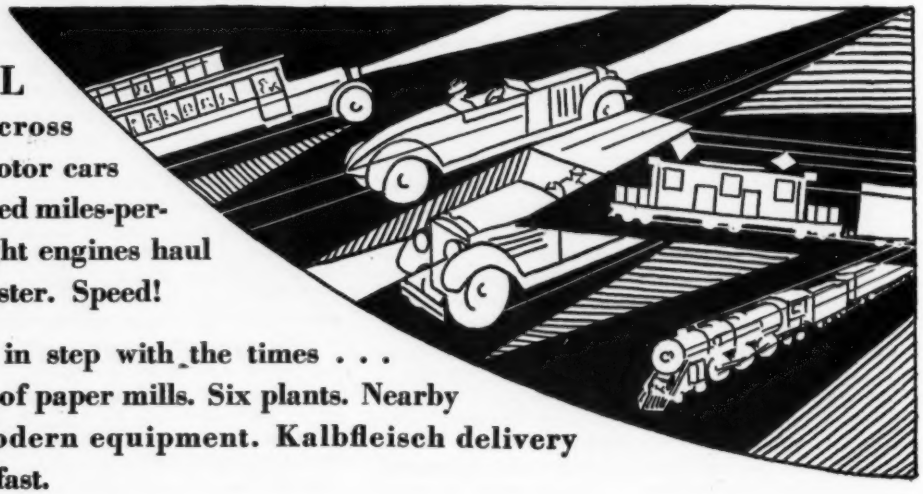

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Section of the
Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Edited by
RONALD G. MACDONALD, Secretary

The Manufacture of Cigarette Papers*

The date of the manufacture of the first cigarette papers was in about 1850, but the industry has developed chiefly in the course of the last few years. The largest producers, except France, (where 40 machines run on this grade and which has built up a large export trade), are Spain, Italy, Austria and Russia.

France produces the largest variety of grades, such as:

1) White unloaded papers, either laid or wove, in weights of 8 to 14 grams per square meter, (generally 12 to 14 grams);

2) White loaded papers weighing 14 to 25 grams per square meter, chiefly 16 to 18 grams;

3) Combustible papers;

4) Watermarked papers;

5) Colored papers.

Properties of Cigarette Papers

1) The most important properties are tensile strength, bursting strength and folding endurance. It is quite evident that these are the main qualities required in cigarette papers.

Tensile strength tests on some high grade cigarette papers gave the following results:

High grade white wove cigarette paper weighing 13 grams per square meter:

Breaking load 1.440 kilos (average),
Breaking length 7,380 meters,
Elongation 1.9 per cent.

Wove paper weighing 16.5 grams per square meter (for the French Government):

Breaking load 1.500 kilos,
Breaking length 6,020 meters,
Elongation 1.8 per cent.

The above figures show that these papers are very strong, relatively to their weight, which is accounted for by the fact that they are made from such raw materials as hemp, linen, ropes, etc.

2) OPACITY—Though the paper is very light, it must be quite opaque, and consumers are quite punctilious in this respect. The required opacity of such thin papers is obtained by a judicious selection of raw materials and also by addition of fillers.

3) ABSENCE OF BLEMISHES, FORMATION—The paper must naturally be free from "pin holes" and "light spots"; and it is also essential that the sheet be not "crushed".

4) ASH—The consumers of cigarette papers require various ash contents for the paper. The manufacturer must therefore select his raw materials and fillers according as his customers prefer a high or low ash content, white or dark, or an ash having a certain amount of consistency.

5) COMBUSTIBILITY—Some people like a quick-burning paper, others, a slow-burning one; but in all cases the burnt paper must be odorless.

Raw Materials Used

Hemp and flax are the materials most generally used for the manufacture of cigarette papers.

1) HEMP (Cannabis Sativa)—Hemp is received in the form of tow from various sources, waste from spinning mills, hard rags, twine, old nets or bagging, etc. Hemp fibers have small filaments which can be detached from the main fibers. They are very strong and are quite soft.

The cultivation of hemp requires rich soils, such as alluvial soils, but it can be carried out under practically all climates. Italian hemps from Lombardy and Bologna are the ones most highly prized for the manufacture of cigarette papers. They are used as received, without any sorting, and even without cutting. The bales are cut open and charged directly into the boiler. Italian hemps have fine but strong fibers; we shall see further on that they readily hydrate on beating and give a strong opaque paper.

Hemp waste from spinning mills give a 65 to 75 per cent yield of cellulose. Tows give a 68 per cent yield; worn rags, an 85 per cent yield, while the "straw" gives only 26 per cent.

Indian hemps, which are also used in large quantities, as well as Russian hemps, have coarser and more irregular fibers than the Italian product, and are easily distinguished from the latter. Moreover, Indian hemps have a strong and characteristic odor and contain a large percentage of "straw". When we come to discuss bleaching, we shall see that they require a more thorough treatment than Italian hemps.

Hemp tows contain a variable proportion of "straw" according to their origin and quality. Spinning mills which handle flax and hemp tows recover about 10 to 20 per cent of waste material under their carding machines, and they sell this to the cigarette paper mills.

The waste from flax and hemp spinning mills, which is also very shivy, is produced in the course of various mechanical treatments, such as scutching, combing, etc. These materials are highly prized in spite of the impurities which they contain, and they yield up to 75 per cent of pure cellulose. Quite a large amount of the waste thus used for cigarette papers comes from the spinning mills in the Lille district; while old cordage and sails come from the sea ports.

Pure hemp cordage, new ropes, white twin tarred ropes, nets, belting, bagging, etc., which are used extensively, give hard pulps with excellent strength characteristics.

Hemp is also found mixed with other fibers such as jute, phormium, or manila. In such cases the material must be care-

* Translated from Le Papier xxx, 983-990 (September, 1927), 1095-1105 (October, 1927), by A. Papineau-Couture, Montreal, P. Q.

fully sorted and classified at the mill. Hemps from Sarthe and Anjou, which are used in the manufacture of marine cordage, find their way into the manufacture of cigarette papers, either in the form of worn out cordage or as carding-mill waste. The composition and quality of different lots varies quite considerably. In calculating the cost of production, the quality of the various grades and the losses due to moisture, dust and wrapping are all taken into consideration. For example, a lot of 580 kilos of hemp twine gaves the following yields:

Grade	Yield
	83 %
No. 1 hemp twine	4.80
White cordage	4.00
Semi-tarred cordage	1.50
Phormium	0.90
Manila	0.35
Wrapping	5.45
Dust and moisture	

Production costs are calculated according to the yields and relative values of the different grades, and the latter are stored in different bins and used as required for the different sorts of papers. The above table shows a net yield of about 94 per cent of useful material, of which about 91 per cent is hemp.

Cordage generally also contains some phormium and a little manila. The proportion of phormium contained in twine and bagging varies within very wide limits; it may be as low as 15 to 25 per cent, while in some grades of twines it may be as high as 100 per cent. Phormium fibers are long, strong and flexible, and consist of ligno-cellulose. The yield of paper making stock from spinning-mill waste is about 60 per cent.

In practice it is quite easy to distinguish between phormium and hemp by dipping the rag in very hot water, draining, dipping in nitric acid and washing; flax or hemp fibers remain grey, while phormium turns a maroon color.

Manila, jute and phormium resemble each other more closely and are more difficult to separate. Some ropes are made with a hemp core while the outer strands are made of manila and phormium, while in other cases the core is made of manila and the outer strands of jute. Jute fibers are not strong enough to be used for cigarette papers.

Manila fibers are rather coarse; they are very strong and have a satisfactory felting power. They consist of pecto- and ligno-cellulose.

Manila and jute are not used for cigarette papers; but as cigarette paper mills often make other grades of lightweight papers, such as tissues, onion skins, etc., the material sorted out can be used for these grades. For instance, manila and phormium can be used for tissues, colored cotton and linen for onion skin, etc.

Phormium, however, can be used in cigarette papers, but only in small quantities, and chiefly for the colored sorts, such as straw-colored wove or laid, in which up to 12 per cent phormium can be used, the remainder of the furnish consisting of hemp and partly bleached flax tow.

Flax

2) Flax (Linum Usitatissimum)—Flax fibers also are very strong; they are soft and silky, and are finer and more uniform than hemp fibers. It hydrates quite readily, has a high felting power, and gives a strong and rather glassy paper. It yields from 70 to 85 per cent of cellulose, the remainder consisting of fats, waxes, pectic matter, moisture and ash. Flax, like hemp, consists of pecto-cellulose.

The flax used for cigarette paper manufacture comes chiefly from Belgium and Russia. It is not as rough as hemp, and is therefore easily distinguished from it. Flax is generally delivered at the mill in one of the following forms:

a) Flax tow,
b) Spinning mill waste, yielding 70 per cent cellulose,
c) Linen thread,
d) Mixed hemp and flax waste,
e) New linen cuttings, which yield 85 per cent of paper stock.

Flax "straw" (woody portions of the stems) yields about 25 per cent of cellulose.

Flax and hemp may be used either separately or together; but it is rather seldom that flax is used alone, whereas hemp frequently is. The following is an example of a typical furnish:

Hemp, twine and old nets	50 per cent
Linen thread	15 per cent
No. 1 mixed rags	30 per cent (hemp, linen and cotton)
Phormium	5 per cent (present in the hemp twine)

Rags

3) Various grades of mixed rags contain cotton, linen and hemp. They impart bulk and opacity to cigarette papers and facilitate combustion. They are particularly prized in the manufacture of laid papers, and are used in admixture with hemp in proportions which may be as high as 50 per cent of the furnish.

On reaching the mill the rags are sorted in the rag room and the different grades stored separately. The following is a typical example of the results obtained:

No. 1 mixed rags	60 per cent
Semi-new linen	20 per cent
Colored cotton	10 per cent
Mixed worn cotton rags	3 per cent
Mixed colored rags	2 per cent
Loss	5 per cent

Of the softer stocks which are used, mention should also be made of No. 1 and No. 2 white linen, blue, black and oiled linen, mixed linens (half cotton, half flax), coarse hemp and phormium canvas, tarpaulins, sailcloth, etc.

4) Cotton is used to but a very slight extent in cigarette papers. It generally yields from 85 to 92 per cent of cellulose. In certain loaded 16 to 18-gram papers, however, it can be used in admixture with hemp and linen in the following proportions:

Mixed worn cotton rags	15 per cent
Flax tow	20 per cent
Hemp tow and waste	40 per cent
Broke and filler	25 per cent

Clean cotton rags yield about 80 per cent of cellulose, while with dirty rags the yield is only about 65 per cent and with spinning mill waste it is about 60 per cent.

Bleached sulphite pulp is also used in cigarette papers; but we shall have occasion to refer to this more fully when discussing beating.

Preparation of Hemp, Flax and Cotton Halfstuffs

We have already seen that rags are sorted according to their composition, color and cleanliness. The various operations to which they are subjected are as follows:

1) Stripping and Sorting—The rags and ropes are cut by hand by means of large scythe-like knives, fixed in a vertical position to the sorting table, the latter consisting of a coarse screen connected to a suction fan for drawing off the dust. They are then sorted according to quality and weighed. The loss on stripping generally varies from 2 to 4 per cent according to the grade of rags. In the above-mentioned case of hemp twine there was a loss of 5.45 per cent, divided about equally between moisture and dust.

2) Cutting and Dusting—In cutting and dusting rags and ropes there is a shrinkage of from 3 to 12 per cent according to the grade and condition of the material. Rotary cutters having a capacity of from 300 to 500 kilos per hour are generally used. The rags are cut into pieces measuring about 6 to 8 centimeters and are then sent to a screen where the dust is removed by suction.

Hemp and flax waste, however, is frequently put through a duster in order to more thoroughly remove the very large quantities of dust which it contains; and in the case of certain card wastes it is not unusual to have a shrinkage of 50 per cent and over at this stage.

3) Cooking and Washing—The next step in the treatment of rags consists in cooking them in spherical boilers. The time varies from 6 to 18 hours and the steam pressure from 3 to 4 kilos per square centimeter. Caustic soda, lime or a mixture of lime and soda ash is generally used for cooking. Hemp and linen spinning wastes are usually cooked from 6 to 8 hours with 10 to 15 per cent of caustic soda at a pressure of 3 kilos.

The proportions of lime and soda ash vary with quality and nature of the rags, and the figures given in the following table

have been found to give good results as regards both the efficiency of the cooking and the cost of production:

Grade	Lime	Soda Ash	Time of boiling: With steam	Time of boiling: Without steam	Time of boiling: Total	Time of Washing
			10 hrs.	3 hrs.	13 hrs.	2 hrs.
Italian hemp	15.5%	1.5%	12	3	15	3
No. 1 hemp tow	10.5	1.5	15	3	18	4
Tarred ropes	18.0	4.0	15	3	18	3
Hemp waste	16.5	4.5	15	3	18	3
Shivy hemp and ropes	18.0	4.0	15	3	18	3
Nets	18.0	4.0	15	3	18	3
Low-grade twine	18.0	4.0	15	3	18	4
Phormium	20.0	..	15	3	18	3
Flax tow	15.0	1.5	10	3	13	2
No. 1 hard rags	13.5	3.5	10	3	13	..
No. 1 white linen	5.5	1.0	5	1	6	1
No. 2 linen	12.0	1.5	6	2	8	1
Colored linen	15.0	2.5	6	2	8	1
Cotton rags	9.0	5.0	6	2	8	

After boiling the rags are washed in a washing engine for a period varying from 1 to 4 hours according to their quality; but certain grades, such as white linens, which are quite clean, are sent directly to the beater where they are given a slight washing before defibering.

4) DEFIBERING—This is generally carried out in small beaters having a capacity of 75 to 100 kilos of dry fiber, equipped with washing drums which can be raised up out of the stock. Defibering is generally done at a consistency of 2 per cent; but this varies to a considerable extent according to the nature of the material, certain stocks having a tendency to form into lumps which interfere with the proper working of the roll. Hemp tows, in particular, should be treated at a low consistency at this stage, and provision should be made to ensure very thorough mixing of the stock in the trough.

The time of defibering varies with the nature and quality of the stock. Hard pulps, such as hemp, flax, etc., must be given a fairly drastic treatment for from two to three and a half hours; while soft pulps, such as linen, etc., must be treated very carefully during the whole period, which is generally of one to two hours. The loss at this stage depends both on the nature and grade of the materials used and on their previous treatment, and generally varies from about 5 to 10 per cent.

5) BLEACHING—The pulp is next bleached with chloride of lime solution, which is best prepared by dissolving 5 to 6 kilos of high grade bleaching powder in 100 liters of water. The bleach liquor should have a density of 4 deg. to 5.5 deg. Baumé, preferably between 4 deg. and 5 deg. corresponding to 16.6 to 21.1 grams of available chlorine per liter.

After bleaching the half-stuff is dropped into the drainer, where it is allowed to stand for a suitable length of time. The liquor still contains about 3 to 4 grams of available chlorine per liter, and it is recovered and used by mixing it with fresh 5 deg. Baumé liquor.

In bleaching colored grades, sulphuric acid is added in the potcher.

The loss on bleaching usually varies from 5 to 8 per cent, and may even be as high as 10 per cent when the stuff has been over-bleached. The total shrinkage which takes place in the conversion of rags into half-stuff can be estimated at from 30 to 45 per cent.

The bleached half-stuff is taken from the drainer as required for further treatment in the beater, and if desired it may be first lapped on a wet machine before introducing into the beater.

Bleaching Powder Required for Various Materials

Material	Bleaching powder	Remarks
Extra hemp tow and Italian hemp	12–15 per cent	Very white pulp
Tow, card waste	19 per cent	The fibers are fairly white, but there remain some insufficiently bleached shives.
Hemp	19 per cent	
Shivy twine	19 per cent	
Flax waste	19 per cent	
Flax tow	18–19 per cent	Very white pulp if the tow is of good quality.
White ropes	8–10 per cent	Very white pulp.
New or old phormium	14–28 per cent	Hard to bleach. Cream or slightly brownish tint. The fibers have a silky appearance when properly bleached.
No. 2 twine and tarred ropes	14 per cent	Creamy white.
Extra hard rags	8 per cent	Fine white pulp.
White linen	4 per cent	
Cotton rags	8–10 per cent	
Colored linen rags	14 per cent	Sulphuric acid added in the potcher. Often slightly colored.

Stuff Preparation

6) BEATING—It has frequently been said that "Paper is made in the beaters"; and this saying is particularly true in the case of cigarette papers, since the wide variations in the beating properties of the materials used and the large variety of different grades of finished paper require that exceptional care and attention be given to the beating.

Bronze bedplate knives and fly bars are used. The consistency varies from 6 to 9 per cent, the beater being charged more heavily in the case of soft pulps than of hard pulps. A large amount of water is used in the former case (free pulps), and less in the latter (slow pulps). It is advisable to use small beaters with a capacity of 65 to 130 kilos of dry pulp, so that the pulp will not settle out to the bottom of the beater. But even in this case, in spite of the short travel of the pulp, a thorough mixing action is required to obtain clean, uniformly beaten pulp free from lumps.

The beaters are always equipped with a washing drum, as it is absolutely necessary to remove the last traces of chlorine which would otherwise impair the strength of the fibers; and certain grades are sometimes washed for two hours before starting to beat.

The time of beating varies according to both the quality of the half-stuff and the grade of paper required. Twelve hours may be considered a fair average on the whole. Soft pulps are given a mild treatment and must be handled carefully, while hard pulps are beaten harder and more quickly. When the furnish consists of, say, 50 per cent hemp (hard pulp) and 50 per cent mixed rags (soft pulp), these two materials must be treated separately, the hard pulp being beaten short and the other relatively long. The above-mentioned furnish is used for 13-gram laid paper, as soft pulps take the laid lines very well.

Generally speaking, the final letting down of the roll is of very great importance. In the case of hard pulps it is essential that the roll be down long enough to completely eliminate all lumps. The average time of the different phases of treatment in the beater may be taken as follows:

a) Washing	1½ to 2 hours
b) Beating proper	8½ to 9 hours
c) Final cutting with the roll down	¾ to 1 hour
	11 to 12 hours

For certain cigarette papers, however, which are made from an all hemp furnish, the time can be reduced to 9 hours, of which only 6 or 7 of actual beating.

Hard pulps hydrate much more readily than soft pulps. As is well known, hydration depends on the increase in surface of the fibers, that is, on their being split and divided longitudinally.

The following table gives the beating properties of the chief fibers used for cigarette papers, arranged in decreasing order of importance:

Material	Felting Power	Beating Properties	Remarks
Hemp	1,000	Hydrates readily. Very strong fibers.	Short cylindrical fibers. Imparts opacity and strength to the paper. Hard pulp.
Flax	1,764	Hydrates very readily (wet stuff). High felting power. Very strong fibers.	Is not readily watermarked. Flax gives a stronger and silky paper, which is sometimes glazy. Both hold fillers quite well and are extensively used.
Hard rags		Does not hydrate readily (free stuff).	Imparts opacity and facilitates watermarking. Long flat fibers. Facilitates combustion.
Phormium	214	Does not hydrate readily.	Imparts opacity. Fairly strong fibers.
Cotton	1,200	Does not hydrate readily.	But little used. Gives bulk; improves combustion and absorption.
Bleached sulphite	100	Hydrates readily if proper precautions are taken.	Gives transparency, gloss and "rattle" to the paper.

Hydration of the stuff, which requires a very large amount of experience in order to obtain exactly the desired results, naturally causes a considerable increase in temperature, which at times may reach 50 deg. C. or more.

Bleached Sulphite and Broke

In addition to flax, hemp and bleached rags, bleached sulphite and broke are also used. The amount of sulphite used may vary from 5 to 12 per cent according to the grade of paper made. In unloaded 13-gram paper, for instance, from 4 to 9 per cent of sulphite can be used; in other grades weighing about 16 to 18 grams 12 per cent will be added; while in still different grades which are made in weights of 25 grams per square meter up to 30 per cent of sulphite is sometimes added.

Broke (either wet or dry, from the paper machine, slitter or cutters) as well as the stock recovered from the white water in the save-alls, are also utilized. The proportion generally used is from 7 to 15 per cent, but may sometimes be as high as 23 per cent. In the latter case it is beaten separately from the rest of the furnish for a couple of hours, as it requires to be beaten for only a short time. When the furnish contains only a small amount of broke, it is added to the beaters about an hour and a half before dropping.

The beater engineer should make sure, however, that the broke has been properly beaten; for it frequently happens that through neglect of this precaution the stuff contains lumps on account of insufficient beating of the broke.

Fillers

7) Fillers and Combustibility—Many cigarette papers are more or less heavily loaded with fillers such as calcium carbonate, magnesium carbonate, magnesium peroxide and china clay. These substances are in no way injurious to the health of smokers, and the supposed "intoxication by the ash" is nothing but a myth.

Fillers are not used merely to increase the weight of the paper, but to give it opacity and an unctuous feel, and also to improve its combustibility. The addition of fillers makes the paper more combustible because they make it more porous and facilitate the access of air by capillary action, and at the same time it improves the appearance. Furthermore it decreases the proportion of organic fibers which give off malodorous volatile combustion products on burning. On the other hand, unloaded paper made from stuff which has been beaten too wet is close and lacks porosity, and it therefore burns with difficulty.

It is by no means unusual to load cigarette papers with 20 to 30 per cent of calcium carbonate. In a highly combustible 19-gram paper made of hemp and broke, for example, 30 per cent of calcium carbonate would be added in two portions; 20 per cent would first be added after washing the pulp, and the remaining 10 per cent about an hour before dropping the beater.

Calcium carbonate and magnesium carbonate may be used together. For instance, a highly combustible 19-gram laid cigarette paper made from a furnish containing two-thirds hemp and one-third linen would be loaded with 5 per cent magnesia and 7 per cent calcium carbonate. The hemp would have to be beaten wet and the linen long and free. Furthermore, in order to still further increase the combustibility, 0.155 per cent of magnesium nitrate and 0.340 per cent of lead acetate could be added half an hour before dropping the beater.

Such a paper is quite combustible, as shown by the fact that if the tip of a lighted cigarette is placed on it it will burn a hole the size of a five-franc piece. But we shall see further on that the paper may be rendered much more highly combustible by nitrating the sheet on the paper machine.

Generally speaking, the amount of filler used varies within wide limits according to the quality of the paper, (degree of combustibility desired), the opacity required, and the weight per square meter.

Before adding to the stuff in the beater, fillers should always be mixed with a sufficient amount of water and carefully screened.

China clay is sometimes used as a filler in non-combustible papers. The addition of china clay retards combustion by holding the fibers together and giving a closer texture to the paper. It is seldom used, however, in spite of its valuable properties from the standpoint of opacity, on account of the grit which it contains.

The amount of calcium carbonate added to cigarette papers weighing 14 grams per square meter does not exceed 3 to 4 per cent; but in other papers weighing 16 to 18 grams up to 25 per cent and over is frequently used.

Magnesium carbonate, which makes the paper very porous, can be used alone as a filler, but it is generally used in conjunction with calcium carbonate. A 13-gram laid paper, for instance, containing 45 per cent hemp, 45 per cent hard rags and 8.5 per cent broke would be loaded with 1.5 per cent of magnesia.

Magnesium peroxide is also used to some extent; but, though it gives very good results, its high cost militates against its general adoption. On burning it is converted into magnesia and oxygen.

Calcium carbonate, which is by far the most generally used filler, makes the ash of the paper quite white. The ash is sometimes required to have a certain consistency, and this is obtained by adding from 0.2 to 0.3 kilo of zinc sulphate about half an hour before dropping the beater.

Colored Cigarette Papers

In California, Brazil and Argentina there is a large demand for straw-colored or corn-colored cigarette paper, on account of the similarity with corn leaves which the natives use for rolling their tobacco. Such papers are generally made in weights of 13 to 20 grams per square meter. Underbleached pulps, phormium and unbleached sulphite may be used in their manufacture. "Straw" papers are colored with Lima red and Cuba yellow, while green vitriol (ferrous sulphate) and chlorine (which together give ferric sulphate) are used for "corn" papers.

"Licorice" Cigarette Papers

These papers, which are coated with licorice, are consumed in large quantities in Cuba, Mexico and India. The favor which they enjoy is presumably due to their color, which imitates that of cigar tobacco, and to their characteristic sweet taste. An 18-gram paper is used for coating, and its composition is similar to that of wove "straw" or "corn" paper of the same weight; but it is more heavily loaded, up to 30 per cent calcium carbonate being used. The stuff is beaten free and the fibers are kept relatively long.

The paper may be colored either in the beater or during the coating, and sometimes at both stages. In the former case, about 12 per cent of soluble brown and 0.008 per cent of safranine may be used. In the latter case, the base is given two coatings having the following composition (calculated to 100 kilos of paper):

3 to 4 kilos of licorice dissolved in 15 to 20 liters of water,
8 to 12 kilos of soluble brown dissolved in 30 to 50 kilos of water,
5 liters of gylcerine,
500 grams of sugar,
2 to 5 kilos of sulphate of alumina.

The addition of sugar facilitates the formation of a good emulsion, while the gylcerine helps to hold the licorice and the color.

"Licorice" papers are sometimes required to be combustible, and in that case sodium or potassium nitrate is added to the sugar during the coating operation.

Water and Coal

Large amounts of water are required for the manufacture of cigarette papers. According to an article in the *Paper Makers' Monthly Journal* 150,000 gallons are required per ton of paper, or 670,000 liters per ton.

The water should be as pure as possible, and should be passed repeatedly through fine screens before using for washing, bleaching or beating repeatedly to remove all suspended solids. The water used on the paper machines is frequently filtered through open sand filters, or even better it may be filtered under pressure in closed filters. The latter require much less frequent cleaning than those operating at atmospheric pressure and are therefore to be preferred.

The coal consumption per kilo of paper varies in different

mills from 1.5 to 2 kilos and more. In addition to the precautions mentioned above as regards the water, the coal storage and boiler house should be situated as far from the paper mill as possible so as to avoid dirtying the paper with coal dust.

In the manufacture of cigarette papers the ratio between the raw materials used (rags, coal, chemicals, etc.) and finished product turned out by the mill is generally considered to be about 4 or 5 to 1. The practical average yield is about 1 kilo of paper from 2 kilos of rags, or approximately 50 per cent.

Paper Machine Operation

The consistency of the stuff in the chests, which is of very great importance, is generally kept at 2.5 to 3.0 per cent. The capacity of the machine chests is also of importance; when they are very large, it is more difficult to keep the stuff properly agitated, and the tendency to settle may result in the formation of lumps of pulp; when the chests are too small, on the other hand, it may at times be necessary to drop a beater into the chest feeding the paper machine, and this inevitably results in variations in the weight of the sheet on the paper machine.

After the sand traps there are generally two rotary screens, the slits of the second one being 0.3 to 0.4 millimeter wide. The shake should have a high frequency and small amplitude.

The machines, which are mostly from 1.3 to 2 meters wide, are run at the rather low speed of 25 to 50 meters a minute. There are two presses in addition to the couch press, and, contrary to the practice generally followed with other grades, the paper is not reversed at the last press. Stone press rolls are most frequently used to avoid sticking of the sheet to the rolls.

The life of the wires is rather short, seldom reaching 40 days. The slices must be absolutely parallel with the table as well as all the table rolls. Great care must be taken to see that the pressure is very uniform across the whole width of the presses. In order to prevent it from getting dirty the wire should be cleaned frequently by scrubbing with a wire brush, using spirits of turpentine or dilute hydrochloric acid according to the nature of the adhering dirt.

An experienced machine tender can readily detect when the wire is getting dirty from the following indications:

a) The water does not drain properly and the sheet is crushed;

b) In spite of careful adjustment of the vacuum at the suction boxes the water cannot be removed evenly from the sheet;

c) Streaks and light spots appear and the machine has to be slowed down.

In the case of cigarette papers the wire is dirtied chiefly by adhering particles of fillers and by splashing with oil or grease. In the first case it is merely necessary to wash with dilute hydrochloric acid, while in the second case a good scrubbing with spirits of turpentine is all that is required.

The adjustment of the thickness of the sheet and the regulating of the amount of water are delicate operations requiring considerable experience on the part of the machine tender. It is possible to make paper as light as 7 grams per square meter, but this is a remarkable feat which only the most experienced paper makers can carry out successfully. The chief difficulty in this case resides in preventing variations in the weight of the sheet or the production of thin spots which nearly always cause breaks. The wire seam is also a source of trouble and must be cleaned frequently in order to avoid breaks and thin lines across the sheet.

But even when all these precautions have been taken and the consistency of the stock is closely watched, with extra-light cigarette papers small variations in the speed of the machine may be sufficient to cause breaks. Such variations are at times inevitable, even in spite of the wonderful flexibility and reliability of modern motor drives.

The machine tender should keep constantly in touch with the beater engineer, as the formation of the paper will be affected by the degree of beating, and the rate of draining of the stock on the wire will depend also on the composition of the furnish.

A constant watch must also be kept for the appearance of round transparent spots which are caused by the foam due to the air in the stuff. A little anti-foaming oil is added in the machine chest or in the beater just before dropping so as to prevent their formation.

We have already mentioned the reduction in thickness which may be caused by variations in the speed of the machine. It constitutes a serious defect as it impairs both the opacity and the strength of the paper. The same is true of thin streaks which may be due either to ridges in the apron, to irregularities in the stream of stock flowing on to the machine, or to the dandy roll. The latter is placed just after the first suction box and must be very carefully adjusted. A laid roll or a watermarking roll may be used instead. When the laid lines or watermarks are not sharp, it may be due either to the stock, to the presence of too much water in front of the roll, or to improper adjustment. Soft pulps give best results for laid or watermarked papers.

Contrary to the usual practice with ordinary grades of paper, with cigarette paper the first and last dryers should be the hottest ones. But of course this should not be carried too far, because if the temperature is too high at the first dryer the fibers will contract too suddenly and the sheet will cockle.

Satisfactory results can be obtained by admitting the steam directly to the last dryer, thence to the first dryer, and then successively through the remaining ones.

Watermarked Paper

We have already mentioned that cigarette paper can be watermarked on the paper machine, which gives shaded watermarks by displacement of the fibers. Light watermarks are obtained with special machines consisting of several rolls, the engraving roll being made of bronze or steel; when the paper passes under this roll the fibers are crushed by the raised design which produces the watermark. These rolls, which carry the watermarking design, are changeable in order that different watermarks may be made. In addition to their rotation, they are given a very slow back and forth motion parallel to the axis of the lower roll. Before being led between the rolls, the paper is passed over a steam nozzle.

Since the fibers are crushed, it is evident that watermarking reduces the strength of the paper, as clearly shown by the following tests:

Kind of paper	Before watermarking	After watermarking
High grade wove, 13 g. per sq. m.....	R = 1.495 kilos	R = 1.250 kilos
Wove, 16 g. per sq. m.....	R = 1.400 kilos	R = 1.220 kilos

Great care must be taken of laid or watermarking rolls. They should be frequently washed with dilute caustic soda solution, and should be kept greased when not in use. Watermarking rolls are always supplied by the customer who orders the paper.

The paper as it comes from the machine may be either wound into rolls of suitable width or cut into sheets to be sold by the ream. The rolls are sometimes sold as such, or the paper may be first watermarked or put through small winders which slit it and makes it into tight and even rolls 7 to 8 centimeters wide. It can also be put through gumming machines, which slit the wide rolls into strips of the size required for making a cigarette, gum one edge of each strip, dry them in small electric dryers and rewind them.

There are certain firms which have specialized in the conversion of cigarette papers ready for use by the smoker or by the cigarette factory; but some of the mills do this work themselves, selling the paper either in the well-known booklet form or as gummed tubes ready for the cigarette machines.

Cigarette paper rolls require exceptionally careful packing before being shipped. Before putting in the cases they are rolled in a 40 to 60-gram paraffined kraft paper. For exportation they are wrapped in paper which is carefully folded over and pasted to protect the ends, corrugated cardboard is put around each roll as an added precaution, after the rolls have been placed in the

case all voids are carefully filled with seaweed or with crumpled paper, and the boxes themselves are hooped with iron bands. Small 8-centimeter rolls are packed in cases provided with vertical cardboard tubes into which the rolls fit snugly.

Physical Characteristics of Some Cigarette Papers

Grade	Weight per square meter	Mean strength	Breaking length	Elongation	Ash per cent
No. 1 laid.....	13 g.	1.235 kg.	6,240 m.	2.3	
No. 2 laid.....	13 g.	1.200 kg.	6,160 m.	2.0	
Laid	20 g.	1.570 kg.	5,630 m.	1.6	18.10
"Corn" wove	16.5g.	1.720 kg.	6,820 m.	2.5	
"Straw" wove	21 g.	1.850 kg.	5,870 m.	4.0	
Combustible laid	18 g.	1.510 kg.	5,600 m.	2.4	19
Sweet wove	18 g.	1.760 kg.	6,540 m.	2.4	16.82

Yankee Paper Machine Drier Surfaces

SPECIAL INQUIRY No. 121

A member writes:

"We would like to find out from men in mills operating Yankee machines, some reasons for the formation of dull places or "pox" marks (as they are some times called) on the glazed or M. G. side of the sheet. These spots vary in size.

"Is this due to the heat from the drier, the treatment the stock has had or is it due to the presence of dirt (possibly alum or size) that may collect on the drier? Since we use but a small amount of size the trouble can probably not be attributed to sizing.

"We should also like to know whether or not steel doctors keep the drier in better condition than bronze blades and whether there is any danger of injury to the drier surface when steel blades are used. What degree of hardness of bronze blades in general is used and what angle to the drier surface is the bronze doctor usually set? Should the blades be sharp or blunt at the working edge?"

All who contribute to this inquiry will receive a complete transcript, in blank, of all the replies received. Please send replies to

R. G. MACDONALD, Sec., TAPPI
18 E. 41st Street, New York.

United States Civil Service Examinations

The United States Civil Service Commission announces the following open competitive examinations: Assistant Scientific Aide, $1,620 a year; Junior Scientific Aide, $1,440 a year; Under Laboratory Apprentice, $1,260 a year; Minor Laboratory Apprentice, $1,020 a year.

Applications for the above-named positions must be on file with the Civil Service Commission not later than May 7.

The examinations are to fill vacancies in the Departmental Service, Washington, D. C., including the Bureau of Standards, and in positions requiring similar qualifications.

The entrance salaries are as indicated above. Higher-salaried positions are filled through promotion.

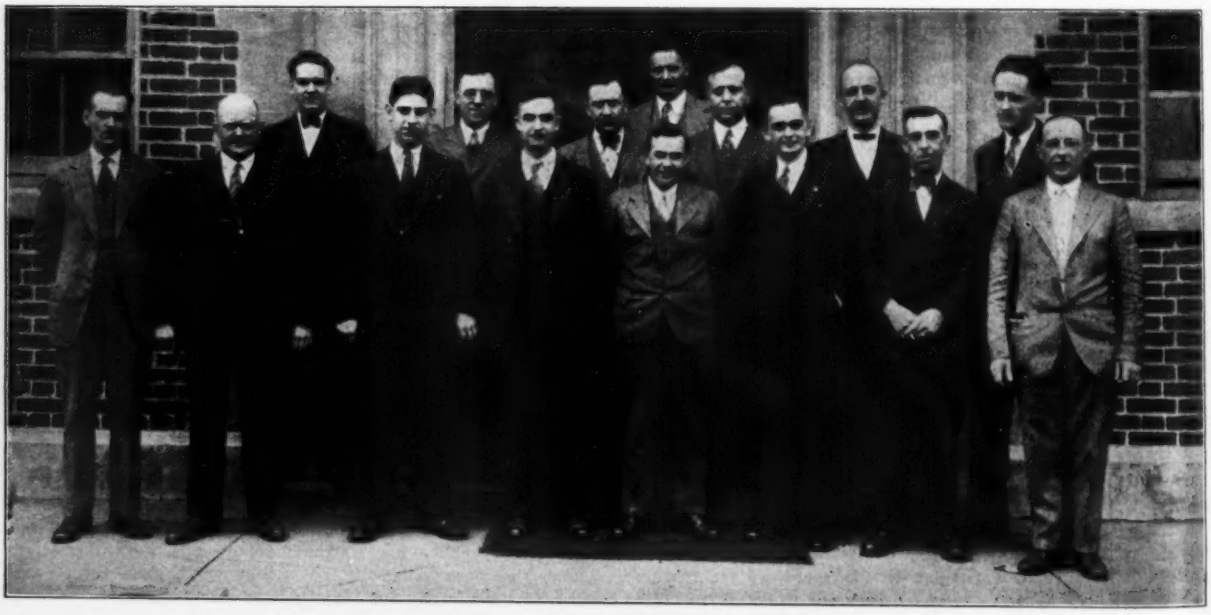
Optional subjects for the position of assistant scientific aide are general physics, ceramics, chemical engineering, chemistry, civil and mechanical engineering, electrical engineering, paper technology, physical metallurgy, physics and chemistry, and textile technology. For the positions of junior scientific aide and under laboratory apprentice lists of eligibles will be established of those qualified in physics, those qualified in chemistry, and those qualified in both physics and chemistry. For the position of minor laboratory apprentice applicants must be examined in either physics or chemistry.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

Third Sulphite Pulping Course

A picture is presented on this page of the group of pulp mill representatives who attended the recent course in sulphite pulping at the Forest Products Laboratory at Madison, Wis.

Ten mill men have already enrolled for the second spring class in sulphite pulping to be given at the laboratory April 29 to May 9, inclusive. Additional enrollments to a total of 14 will be accepted.



MEMBERS OF THIRD SULPHITE PULPING COURSE AT FOREST PRODUCTS LABORATORY

Reading from left to right the men are: E. Durand, Port Alfred Pulp & Paper Corp., Port Alfred, P. Q., Canada; R. J. Sprang, The Champion Fibre Co., Canton, N. C.; Russell LeRoux, Interlake Pulp & Paper Co., Appleton, Wis.; M. H. Bennett, Stebbins Engineering & Manufacturing Co., Watertown, N. Y.; Andrew Weir, Wausau Paper Mills Co., Brokaw, Wis.; Anton Pesch, Falls Manufacturing Co., Oconto Falls, Wis.; A. B. Copping, International Paper Co., Cornerbrook, Newfoundland; Thomas Stafford, Howard Smith Paper Mills, Ltd., Cornwall, Ont.; D. L. McLeod, Price Bros. & Co., Ltd., Kenogami, Que.; F. R. Hyatt, International Paper Co., Berlin, N. H.; H. J. Stilp, International Paper Co., Piercefield, N. Y.; J. D. Miller, York Haven Paper Co., York Haven, Pa.; George McGee, Kenora Paper Mills, Kenora, Ont.; George Ganton, Detroit Sulphite Pulp & Paper Co., Detroit, Mich.; P. C. Ashley, Minnesota & Ontario Paper Co., International Falls, Minn.

Beating Under Control

By Arthur B. Green[1]

In most of the methods that have been proposed for measuring what goes on in the beater-room, there is a curious transition from the old recognized ways. Beatermen in the old days examined the stock. In modern times, for the most part, when the attempt is made to apply more precise engineering to beating, some device is added to the beater to measure, not the stock, but the beater itself. Either the power taken to drive the beater, or the vertical adjustment of the beater roll, or the pressure by which the roll bears on the bedplate, or in some cases no more than the time of beating, is taken as the guide.

Thirteen years ago it was the writer's privilege to publish some preliminary results obtained from methods quite the opposite of these modern methods, and in many ways like the older habits of examining the stock. The attempt was made to apply precision measurements, but instead of applying them to the beater or its driving mechanism, they were applied to the stock as it underwent the action of the beater. This was not altogether a free choice. Every known way of measuring the mechanical features of the engine itself was tried, and found wanting; for unless there is some separate way to eliminate the differences that occur in the stock coming to the beater and to govern the thickness or density of the furnish, there is no hope of beating uniformly by merely applying a mechanical action that is uniform in some one or more particulars. Therefore, the investigator is forced to find ways of gaging what happens to the stock.

Here there is a choice. In spite of the fact that no one has thus far succeeded in telling exactly and fully what the action of a beater is, there are almost numberless ways of noting changes wrought in the stock. Unless care is taken in choosing, endless research can be made fruitlessly. Out of all the observations that can be made either directly or through analysis, those of practical value are the ones which bear on paper, which is the product the stock is being prepared for, viewed as an article of commerce. Paper is sold on account of the services it can perform. Its value when analyzed comes down to such particulars as color, finish, bursting strength, folding endurance, sizing, formation, bulk, freedom from shrinkage or expansion under changes in weather, tearing strength, and the like. If these things determine the value of paper, then the object of beating is to put these properties in the paper to be made in a certain desirable combination; and the value of beating is determined by its success in developing these properties, according as they are wanted, in the stock. Practically the changes wrought by beating that count are the changes in these paper-making properties, and fortunately they can be measured.

With this as the working basis, about five years of study and experiment led to the conclusion that a simple measurement applied to the stock while it is undergoing beating runs in close relationship with the paper-making properties as they are developing under beating. If that measurement is made continuously, and if it is duplicated point by point, then the same paper-making properties are produced, and a sheet of uniform character can be made from the stock. This if true would put beating under precision control. The measurement consists in gaging the internal and surface friction of the stock as it travels in the beater.

This principle was put into practice by devising what was called a beater drag. An object of special shape and smooth surface was held under the stock at a proper depth in a fixed position, and as the stock passed by it had to open and flow around this object, and close again on the far side. The disturbance thus made, and the rubbing on the surface of this object, set up forces that were weighed. These forces were greater when the stock was thick, and less when it was thin. They diminished as the stock became beaten. They were recorded automatically, and the record gave the curve whereby each beater was thickened uniformly to a desired density, and then beaten to bring about the desired properties. Through many years since, this principle has been used in a few mills, where some were enthusiastic for it and some were against it, without disclosing a fault in the theory.

Up to this point the ground is not new. But the beater drag has commercial limitations, and did not lend itself to wide application with ease. It depended on the motion of the stock, and thus depended in turn on having a uniform speed of beater roll. It could not remain in the beater, but had to be raised out of the way when the paddle or rake came into play. Although simple in principle, its construction was not so simple, ran into some expense, and the installation on the beater was somewhat awkward. The beater drag could scarcely be designed to fit all kinds of stock, nor could its installation be the same for all mills and all types of beaters. For these reasons it was never pushed commercially.

A Self-Driven Self-Contained Beater Control Using the Recording Watt Meter

Even greater accuracy could have been reached if it had been possible to make a self-driven machine, light in construction, uniform in speed, and to measure the power necessary to drive it when the disturbing element was turned in the stock under a fixed submergence at a constant speed. With the advent of close timing in the frequency of electric power services all over the country, and the resulting supply of induction motors in fractional horsepower, this now becomes possible. A patent was secured covering such a device.

In order to escape from designing and caring for a special recording device, the first instrument built on self-driven lines employed a commercial recording watt meter. The instrument

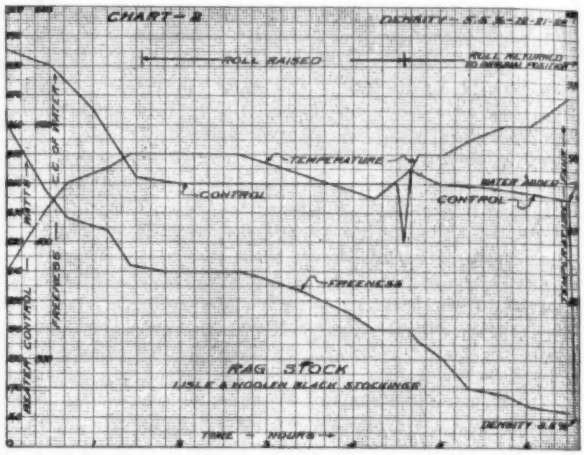
[1] Member TAPPI; Consulting Engineer, Portland, Oregon.

without the watt meter is shown in the accompanying photograph. It is carried on a shaft, shown broken, which spans the beater from midfeather to curb. It is mounted where the flow of stock is in a straight path. At the upper end is a housing enclosing a fractional horsepower induction motor, a train of reducing gears running in Timken bearings, and the main tapered roller bearings for the shaft, or spindle. At the lower end of this spindle is a four-blade paddle so designed as to remain clean of stock, turning at a constant speed of 70 revolutions per minute. The recording watt meter is cut across the leads to the motor, and is placed at any convenient point in the beater-room or elsewhere. The spindle is inclined at an angle so as to trail in the stock.

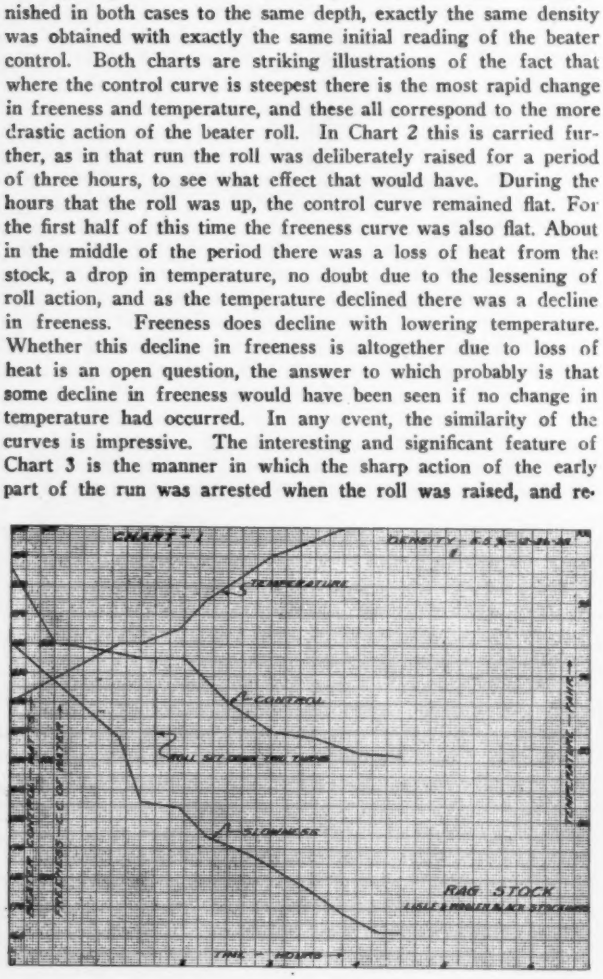
Through the kindness of friends it has been possible to trace out the working of this new instrument in widely different kinds of stock. Charts 1 and 2 give runs in rag stock consisting of lisle and woolen black stockings. Chart 3 gives two runs on kraft for envelope.

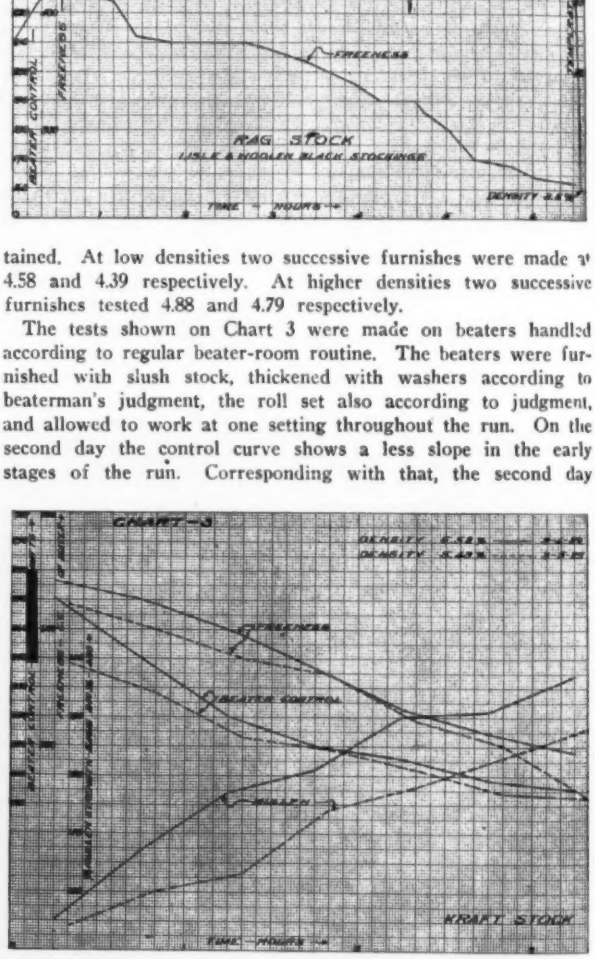
Comparing Chart 1 and Chart 2, where the beater was furnished in both cases to the same depth, exactly the same density was obtained with exactly the same initial reading of the beater control. Both charts are striking illustrations of the fact that where the control curve is steepest there is the most rapid change in freeness and temperature, and these all correspond to the more drastic action of the beater roll. In Chart 2 this is carried further, as in that run the roll was deliberately raised for a period of three hours, to see what effect that would have. During the hours that the roll was up, the control curve remained flat. For the first half of this time the freeness curve was also flat. About in the middle of the period there was a loss of heat from the stock, a drop in temperature, no doubt due to the lessening of roll action, and as the temperature declined there was a decline in freeness. Freeness does decline with lowering temperature. Whether this decline in freeness is altogether due to loss of heat is an open question, the answer to which probably is that some decline in freeness would have been seen if no change in temperature had occurred. In any event, the similarity of the curves is impressive. The interesting and significant feature of Chart 3 is the manner in which the sharp action of the early part of the run was arrested when the roll was raised, and resumed when the roll was put down again; and the control curve taken by itself would tell the story. Moreover, if the seventy-five-point drop at the end of the control curve, corresponding with a descent of 2.3 per cent in density, is considered, there is evidence just how closely the beater control can be relied on to control density.

Turning to the widely different stock of Chart 3, and considering the matter of density, it appears that a variation of twenty points in initial control reading goes with a difference of only 0.09 per cent in density. In the two runs shown on this chart there was no attempt made to furnish to uniform density; hence the depth of submergence of the control paddle was not the same in the two runs. Getting these two furnishes so close in density was accidental. Nothing was done to change the routine of the beater-room. When samples were taken from all the beaters in the room, furnished according to ordinary practice, they varied from 4.38 to 5.52, on the same days as the runs shown on Chart 3. When on later days the beater was thickened in accordance with the beater control, closer results were obtained. At low densities two successive furnishes were made at 4.58 and 4.39 respectively. At higher densities two successive furnishes tested 4.88 and 4.79 respectively.



The tests shown on Chart 3 were made on beaters handled according to regular beater-room routine. The beaters were furnished with slush stock, thickened with washers according to beaterman's judgment, the roll set also according to judgment, and allowed to work at one setting throughout the run. On the second day the control curve shows a less slope in the early stages of the run. Corresponding with that, the second day shows a slower decline in freeness and a slower development of Mullen strength.





The accuracy and sensitiveness of this instrument has been established on many different grades of stock. Now a further simplification in design can be made, eliminating the recording watt meter because that is expensive, and improving the method of installing. The resulting instrument will measure and record the variations in power necessary to turn the paddle at constant speed by means of a torsion dynamometer, and it will bolt to the curb of the beater and not span from midfeather to curb.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

Stencil Sheets. A. B. Davis assignor to A. B. Dick Co. U. S. pat. 1,639,080, Aug. 16, 1927. Cellulose acetate and benzoyl butyl tartrate or similar substances are used together in coatings.—A. P.-C.

Stencil Blank and Process of Manufacturing It. P. R. Smith assignor to A. B. Dick Co. U. S. pat. 1,655,249, Jan. 3, 1928. Paper is coated with a composition containing both a cellulose ester, such as cellulose acetate, and a cellulose ether, e.g., ethyl cellulose.—A. P.-C.

Stencil Sheet. A. B. Dick Co. Eng. pat. 261,806, May 26, 1925. Stencil sheets for use on duplicating machines are coated with a composition containing cellulose acetate, a tempering agent such as amyl or butyl tartrate or phthalate, monoacetin, diacetin, triacetin or esters of glycerol, and a substance lessening the resistance of the composition to being parted in making type-cut stencils, e.g., chlorinated naphthalene derivatives, zinc stearate and oils such as castor, rape-seed, olive, almond or peanut oil.—A. P.-C.

Stencil Sheet. S. Horii. U. S. pat. 1,645,141, Oct. 11, 1927. Sheets such as yoshino paper are impregnated with a composition comprising esters of polysaccharides, e.g., mannan acetate, cellulose nitrate or acetate and chlorinated naphthalene derivatives.—A. P.-C.

Stencil Sheet. S. Horii. U. S. pat. 1,664,033, March 27, 1928. A fibrous base such as yoshino paper is impregnated with a coating material including esters of polysaccharides such as starch acetate, mannan acetate, or cellulose nitrate or acetate and fatty acid of tsubaki oil.—A. P.-C.

Stencil Sheet. D. Gestetner assignor to D. Gestetner, Ltd. U. S. pat. 1,664,675, Apr. 3, 1928. A white titanium pigment is used in the coating applied to yoshino or similar paper. The coating may also contain glycerol and gelatin.—A. P.-C.

Making Carbon or Manifolding Paper. W. J. Hughes assignor to Manifold Supplies Co. U. S. pat. 1,659,320, Feb. 14, 1928. A penetrating marking fluid such as a dye composition is applied to one side of the paper and transfer material is then applied to the same side.—A. P.-C.

Stencil Sheet. C. F. Kumli assignor to Spiegel, May, Stern Co. U. S. pat. 1,642,159, Sept. 13, 1927. A sheet of fibrous material is coated with glue and zinc chloride.—A. P.-C.

Stencil Sheet. W. H. Kurth assignor to Heyer Duplicator Co., Inc. U. S. pat. 1,643,019, Sept. 20, 1927. Fine, unsized tissue paper is coated with material comprising a solid continuous phase of nitro-cellulose composition or other substance impervious to oil, a liquid or oily phase such as a fatty oil dispersed in the continuous phase, and a preservative such as oil of camphor.—A. P.-C.

Wall Board Patent History. Joseph Rossman. Paper Trade J. 86, No. 22, 50-54 (May 31, 1928). A review of United States patents, with brief abstracts.—A. P.-C.

Paper for Blue Prints. Frederick Grove Palmer, Paper Trade J. 86, 59-60 (May 3, 1928); Paper Mill 51, No. 21, 26, 28 (May 26, 1928). A discussion of the properties required of paper for blue prints and of the precautions to be taken in manufacturing such paper. The essential characteristics are high folding resistance and tensile strength and durability.—A. P.-C.

Process for Washing Parchment Paper. Paul Erkens. Fr. pat. 634,112. The rolls around which the paper passes after parchmentizing are driven positively, and not merely by friction of the paper as is usually the case, and the sprays of wash water are directed against the sheet as it passes over and is supported by the rolls.—A. P.-C.

Tracing Paper. Some Micro-Phenomena. James Scott. Paper Maker & Brit. Paper Trade J. 75, 251-255 (March 1, 1928). An illustrated description of the microscopical structure of tracing paper as such and after writing on it with soft lead, ordinary writing ink, and India ink.—A. P.-C.

Transparent Paper. O. Klotz. Eng. pat. 283,751. Paper for packing foodstuffs is rendered transparent by coating with gelatin, which after drying becomes transparent. According to the degree of transparency required the gelatin solution is applied on one or both sides.—A. P.-C.

Waterproofing and Making Wall Papers Washable. A. Sanderson & Sons, Ltd., and H. A. Sims. Eng. pat. 284,435, Dec. 10, 1926. The paper is treated with a dilute solution of nitrocellulose. If a slightly glossy surface is desired a small quantity of gum, e.g., 5 per cent of ester gum on the weight of nitrocellulose, may be added. A suitable solution for a matt finish contains 10 pounds of nitrocellulose, 5.25 gallons of acetone, 4.875 gallons of amyl acetate, 7.5 gallons of industrial spirit, 11 gallons of petrol and 1.5 gallons of solvent naphtha.—A. P.-C.

Colored Stencil Card. E. A. Geiger assignor to Rapid Addressing Machine Co. U. S. pat. 1,645,593, Oct. 18, 1927. Yoshino paper is provided with a partially removed coating of coagulated protein and an outer film on the undisturbed portion of the coating, saturated with a solution comprising shellac and alcohol dye of contrasting color.—A. P.-C.

Method of and Apparatus for Making Gummed Paper. W. H. Smith and A. S. Webster, assignors to American Bank Note Co. U. S. pat. 1,665,611, Apr. 10, 1928. A solution containing an adhesive and a vehicle is applied to one face only of paper, and the latter is then subjected first to a low temperature and then to a relatively higher temperature. In this manner the vehicle is removed from the surface of the solution progressively and results in a progressive crystallization of the adhesive material and a readjustment of the adhesive material during its crystallization, which in turn prevents setting up the stresses which generally cause gummed paper to curl.—A. P.-C.

Apparatus for Breaking the Dried Coating on Sheet Material. A. C. Van Sluys, assignor to Nashua Gummed & Coated Paper Co. U. S. pat. 1,674,580, June 19, 1928. Dried gummed paper is drawn over a number of bars, coated side outwards over a number of bars and coated side inwards over the remainder, in such a way as to be bent sharply as it passes over each bar.—A. P.-C.

Washing Parchment Paper. P. Erkens. Eng. pat. 286,506. A washing machine for paper after being parchmentized or otherwise impregnated comprises positively driven rolls with concentric spraying nozzles, which may be internally or externally disposed or both.—A. P.-C.

Greaseproof and Waterproof Paper. A. L. Clapp. Can. pat. 275,079, Nov. 1, 1927. There are incorporated into pulp, prior to its formation into paper, glue, an aqueous dispersion of paraffin and a substantial quantity of sodium silicate. Aluminum sulphate is added to precipitate aluminum silicate and fix the glue and paraffin on the pulp.—A. P.-C.

Waterproof Paper. A. L. Clapp. Can. pat. 275,077, Nov. 1, 1927. An aqueous paste of sodium silicate and a soap are incorporated with pulp prior to its manufacture into paper, and a solution of aluminum sulphate is added to the pulp. There is thus simultaneously precipitated and fixed a normally sticky aluminum soap and aluminum silicate on the pulp.—A. P.-C.

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Waterproof Paper. A. L. Clapp. Can. pat. 275,078, Nov. 1, 1927. There is incorporated into pulp prior to its formation into paper an aqueous sodium resinate dispersion of unsaponified waterproofing material, together with a substantial quantity of sodium silicate and sufficient aluminum sulphate is added to react with the sodium silicate, thereby forming a voluminous precipitate of aluminum silicate.—A. P.-C.

Machine for Making Prepared Roofing. C. M. Olsen assignor to B. F. Nelson Manufacturing Co. U. S. pat. 1,669,999 May 15, 1928. The material is passed between a pair of rolls, the lower being provided with knives which score it. After passing between the rolls the material passes through a clamping device so that it is completely severed along the scored lines and then deposited in separate sheets.—A. P.-C.

Machine for Making Asphalt Shingles. R. T. Johnston assignor to Flintkote Co. U. S. pat. 1,668,563, May 8, 1928. The machine comprises mechanism for saturating roofing felt and putting it through the subsequent operations for converting it into asphalted roofing shingles. The driving means are so connected that when the machine is stopped any material that is saturated at the time is also put through the subsequent finishing operations.—A. P.-C.

Preservative Impregnation of Building Materials. D. Finley assignor to the Paraffine Companies, Inc. U. S. pat. 1,667,201, Apr. 24, 1928. A sheathing material comprises a fibrous base, such as roofing felt, saturated with asphalt, stearin pitch and creosote. —A. P.-C.

Process and Apparatus for Manufacturing Prepared Roofing Strips. H. Abraham assignor to Ruberoid Co. U. S. pat. 1,662,655, March 13, 1928. A web of roofing felt is saturated with bituminous material and cut into strips lengthwise, each strip having a notched edge. The strips are inclined toward the ratched edges, and with the latter free, bituminous coating composition is applied on the upper surface of each strip so as to permit the same to gravitate towards and over the notched edge and is thicker at that edge than at the opposite edge. A layer of bituminous composition is then applied on the lower surface of each of the strips to form a coating of substantially uniform thickness, and a facing of mineral particles is applied on the upper coated surface and over the notched edge of the strips. The strips are finally severed transversely into pieces of predetermined length.—A. P.-C.

Paper. L. Kirschbraun and A. L. Clapp. Can. pat. 276,092, Dec. 6. 1927. Fibrous stock, containing a bituminous-pitch type base dispersed in an aqueous medium containing a dispersing agent, is treated so that the emulsified base is caused to deposit and clot upon the fibrous stock by the addition of sodium silicate and a reacting salt to the mixture.—A. P.-C.

Roofing Material. F. W. Thomas. U. S. pat. 1,657,979, Jan. 31, 1928. The material comprises separate plies of sheets of flexible waterproof material with an intermediate layer of wire mesh fabric. Lengths of wire are twisted around the strands of the wire mesh fabric, pass in opposite directions through adjacent plies of the sheet material, and have their ends bent down against the outside of the outside plies.—A. P.-C.

Waterproofed Sheets for Building Purposes. R. P. Perry assignor to Barrett Co. U. S. pat. 1,657,585, Jan. 31, 1928. Sheets suitable for roofing or siding are formed on a paper machine from paper stock, comminuted particles of pitch or other waterproofing material of high melting point, and an emulsion of waterproofing material such as flux oil or coal tar.—A. P.-C.

Composite Waterproof Sheet and Process of Making It. C. H. Rayner. U. S. pat. 1,672,579, June 5, 1928. Reinforced paper is soaked in stannic acid. Loose strands of hairy material are laid on a sheet of reinforced paper, irregular holes are broken in the paper and the hair is carried through the holes. The portions of the hair projecting through on to the back of the sheet are singed, and a layer of asphalt is laid over the surface of the singed back and covered with collodion.—A. P.-C.

Paper Crinkling Machine. W. A. Lorenz assignor to Otaka Fabric Co. U. S. pat. 1,654,656, Jan. 3, 1928. The paper from the supply roll is passed over a guide roll and around a large cylinder provided with a suction box, one side of which extends into the bight of the cylinder and the web. A doctor forming part of the vacuum box is mounted at the delivery side of the cylinder at such an angle as to hold back the advancing paper and crinkle it. The paper is dampened on both sides before it reaches the main cylinder—A. P.-C.

Machine for Making Elastic Paper. W. A. Lorenz assignor to Otaka Fabric Co. U. S. pat. 1,667,292, Apr. 24, 1928. The paper is stripped off a rotating cylinder by means of a rotating doctor intersecting the periphery of the cylinder, and driven in the same direction as but at a lower speed than the cylinder.—A. P.-C.

Paper for Backing Sheet Rubber. G. E. Grimm assignor to Westfield River Paper Co. U. S. pats. 1,667,853 and 1,667,854, May 1, 1928. *No. 1,667,853.* A backing for sheet rubber such as that used for patching rubber tires comprises paper carrying a smooth even coating of shellac or other hard resin mixed with a soft resin such as colophony and with castor oil or other suitable vegetable oil. Alcohol, turpentine and formaldehyde may also be added. *No. 1,667,854* specifies coating paper with waterglass, dextrin and blycerol, and then with rubber.—A. P.-C.

Electric Insulating Paper. Felten and Guilleaume Carlswerk A. G. Eng. pat. 270,243, Apr. 29, 1926. Water in paper pulp is replaced by a solvent for phenol resins such as alcohol and the pulp is then impregnated with a solution of a phenol resin which may be converted into the "C" state by heating, and the pulp is made into paper which may be used for insulating high-tension cables, etc.—A. P.-C.

Electric Insulation. D. M. Sutherland. Eng. pat. 270,535, Aug. 17, 1926. A pulp of cellulosic fiber is mixed with a binder such as asphalt or resin and the mixture is pressed and coated with acaroid resin varnish and further compressed. The material may be in board form or may be rendered more flexible by adding softening agents such as methyl ester of para-totuolsulphonamide, triphenyl phosphate or triacetin. The acaroid resin may be incorporated into the pulp by dissolving it with caustic soda and precipitating with alum together with gum resin, oil soaps or asphalt.—A. P.-C.

Method of Rendering Paper Sheets Locally Transparent. O. Poeppel. U. S. pat. 1,662,717, March 13, 1928. Sheets are precoated at the desired locality with a suitable medium to render the paper transparent and are then transferred to the field of influence of travelling heating elements each of the form and dimensions corresponding to those of the "windows" to be formed, and they are maintained subject to this influence until the paper is transparent and the coating medium is completely dried.—A. P.-C.

Rubber Impregnated Paper and Process of Making It. K. L. Moses. U. S. pat. 1,660,204, Feb. 21, 1928. Paper having a high tearing resistance is produced by impregnating a web of paper with rubber-containing liquid, drying the paper, and subsequently stretching it.—A. P.-C.

Safety Paper. W. R. Orndorff assignor to Todd Co., Inc. U. S. pat. 1,662,509, March 13, 1928. 1,3-dimethyl ether of pyrogallol is incorporated into the paper.—A. P.-C.

Paraffin-Resisting Surface for Paraffin-Absorbent Labels for Boxes of Dry Cell Batteries or Like Materials. H. F. Weiss assignor to C. F. Burgess Laboratories, Inc. U. S. pat. 1,646,803, Oct. 25, 1927. Paper is coated with a paraffin-resisting colloid such as starch, casein, glue, sodium silicate or collodion and is pasted to a paraffin-absorbent surface such as a cardboard battery box by a continuous film of box factory glue or other paraffin-resisting adhesive, and the absorbent surface is then impregnated with paraffin.—A. P.-C.

Wrapping of Paper Rolls. Anon. Papier 31, 203-206 (Feb. 1928). A description of the operation of the Jagenberg roll-wrapping machine with a discussion of its merits.—A. P.-C.

Section of the

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THOS. J. BURKE, C. A., Sec.-Treas.

Gold Standard is Far From Being Stabilized*

Financial Experts of the World Seek a Way to Control Effectively the Purchasing Power of this Monetary Unit—A Task for the Central Banks

By Edwin Walter Kemmerer

Now that most of the countries have returned to a gold basis, the attention of the world is focused on the question of stabilizing this monetary unit. The situation is discussed in the following article by Dr. Kemmerer, who has served as financial adviser to Mexico, Columbia, the Union of South Africa, Poland and other nations and is now making a study of the finances of China for the Chinese Government.

The return of the larger commercial nations of the world to the gold standard was the first step in the process of post-war monetary reconstruction. This important step is now practically completed. Since January, 1923, no less than thirty countries have taken measures to re-establish a fixed relationship between their currencies and gold.

These measures have resulted in stabilizing the foreign exchanges and in establishing a closer relationship between the movements of commodity prices in the different countries. All of this has been highly beneficial to international trade, which has suffered in the years since the war from the uncertainties of prices as expressed in the various currencies.

This general return to the gold standard is to be commended because for present-day conditions, the gold standard is probably the best monetary standard that the world has yet devised. It is a long step ahead of any fiduciary money standard with which the world up to this time has had any experience, and yet it is far from perfect, for the value of gold itself—or, in other words, the purchasing power of gold—is not stable.

A Shrinking Gold Dollar

The gyrations in the value of the gold dollar since the end of the last century have been fully as violent as during any equal period in the history of our country. Between 1900 and the beginning of the World War the purchasing power of the dollar fell 18 per cent. From 1914 to 1920 it fell 57 per cent, or over 70 per cent from 1896 to 1920. From the middle of 1920 to September 1928, the purchasing power of the dollar *rose* 56 percent, but it is still 44 per cent less than in 1896. It is to this unsteady monetary unit that our financial and economic systems are tied.

With the coming of a falling price level; that is, a dollar of increasing value, the tables were turned. The money value of products and merchandise faded. The mere holding of goods on borrowed money might and did thrust thousands into bankruptcy. The margin in dollars between costs and selling prices decreased and in some instances was wiped out altogether or even became a negative quantity. The farmers who had bought land during the period of inflation were burdened with mortgages on which they could not pay the interest, because the prices of farm products had so greatly declined. Creditors were paid in dollars of increased value and flourished to the extent that debts were paid. The bondholder gained at the expense of the stockholder.

Thus, monetary instability, the great engine of wealth redistribution, brought in its train social and political discontent.

The General Price Level

This engine of wealth redistribution, which left, uncontrolled, may bring all these disasters, is subject to control. The indicator, which by its movement gives notice that changes are taking place in the distribution of purchasing power, is the general price level. When it moves substantially either up or down, we know that certain classes are being favored at the expense of others.

That is the problem of monetary stabilization with which the nations of the world are confronted today.

Fortunately, during the last six years, thanks largely to America's important position in the world's credit market, her enormous accumulation of gold and the eminently wise administration of her Federal Reserve System working in cooperation with central banks of other important countries, gold monetary units throughout the world have been reasonably stable in value. This gives us a clue to one means of control. The central banks can, through their "open market operations" and changes in their rediscount rates, exert considerable control over this engine of distribution, particularly over its minor operations. We are still, however, in a period of experimentation in the matter of control by central banks, and it is doubtful if they could accomplish much against strong, long-run forces working for instability in the value of money—like, for example, great changes in gold production.

The favorable conditions which made it possible for the Federal Reserve System to bring about a certain degree of world stability in purchasing power are disappearing with the return of a free gold market and the consequent exportation of gold from this country to build up the gold reserves in those nations which are returning to a gold standard.

The problem is an international one, hence the responsibility should be borne jointly by the central banks in the money markets of the world. The frequent conferences of the governors of the New York Federal Reserve Bank, the Bank of Eng-

*The New York Times.

land, the Bank of France, the Reichsbank and other central banks, which we have seen mentioned in the press in recent years, are hopeful signs. International conferences dealing with this subject, like the Genoa Conference in 1922, are likely to occur more frequently in the future than in the past because of the existence of the League of Nations.

Genoa Conference of Special Importance

The Genoa Conference was of special importance. It recommended that, once the foreign exchanges had been stabilized on a gold basis, monetary policy should endeavor to regulate credit, "not only with a view to maintaining the currencies at par with one another, but also with a view to preventing undue fluctuations in the purchasing power of gold."

In the days when economic processes were simple, when economic operations were short and, in the main, carried on in the household, and when credit transactions were almost negligible—monetary instability was of much less serious consequence than it is today. The more specialized and long drawn out our economic processes become, and the more we resort to the machinery of credit, the more serious in its economic, moral and political consequences is the evil of instability.

When individuals within the nation are tied together by innumerable contracts which are promises to pay a given number of dollars at future dates—say three months, six months, or several years hence—then the changing value of the dollar divides the nation into two great classes, with opposing interests, to wit, a class that consists of persons who on net balance are debtors and who would therefore profit by a depreciating dollar and lose by an appreciating one, and a class that consists of persons who on net balance are creditors and who would therefore profit by an appreciating dollar and lose by a depreciating one.

Vast Sums Involved

Dr. William I. King recently estimated that in the United States alone, within a period of five years, the unstable dollar thus blindly robbed some and enriched others to the extent of something like $40,000,000,000. This obviously, also has an important bearing upon international political relations and upon world peace.

Under present conditions currency instability is thus a gigantic engine of wealth redistribution that works night and day, and works blindly. It seizes wealth here and gives it out there. It takes property from one class, without rhyme or reason, and gives it to another class; in a short time it takes wealth from the second class and gives it to a third. At one time, through inflation, it despoils the creditor. He may be an orphan with his inheritance invested in gilt-edge bonds. The rising price level may cheat him of a college education. He may be an old man whose savings for his old age are invested in government securities. The poorhouse or the charity of friends may be his only means of rescue. Or the injury may fall upon a widow living upon a fixed pension or a life insurance annuity, or it may fall upon an endowed institution, a hospital, a college, a library or a home for children or for the aged.

Salaried Classes Suffer

The salaried and wage-earning classes suffer with the creditor. They find that their salaries and wages no longer buy the things they are accustomed to. Wages adjust themselves but tardily, while the adjustment of salaries of government employes, judges, school teachers and technical experts dependent on legislative action comes even more slowly.

During the period of generally rising prices from 1896 to 1920, as is always the case at such times, the manufacturing and commercial classes were for the time being the gainers. *The more rapidly the value of the dollar moved downward; that is, the more the price level rose, the wider the margin in dollars between costs and selling prices. The opportunity for profits on these widening margins increased.* Investments in goods and real estate were profitable, so merchants and manufacturers borrowed money to increase such investments. They paid these debts in dollars which were less valuable than those they borrowed. Stockholders gained at the expense of bondholders. Farmers with mortgages also shared in the gains.

Stabilizing a Standard

With the return of the nations of the world to a gold basis, this question has again arisen in the League of Nations. Last May the Economic Consultative Conference adopted a resolution stressing the danger of undue fluctuations in the purchasing power of gold, because of their effects upon industry, agriculture and employment, and recommending to the Financial and Economic Organization of the League that they give attention to this problem. Thus the attention of the world is being focused upon the question of the means of stabilizing the gold standard.

There are two aspects of the problem; one has to do with the supply of gold and the other with the demand for gold. If the supply of gold fails to keep pace with the demand for gold, the world will suffer from the evils attendant upon deflation and falling prices; while if the supply should outstrip the demand, the world would suffer from the evils of inflation and rising prices.

The world's supply of monetary gold may be increased by the mining of gold and by regulating the flow of gold into the arts. There are few, if any, great industries in modern life that are affected with such a great public interest as is the production of gold, yet it is carried on in a purely laissez faire way without international or even national control in the public interest.

At present the annual production of gold is still less than it was before the war, although it has increased substantially since 1922. It does not seem at all improbable that new methods may come into use in the future that will materially reduce the costs of production and bring into use lower grade ores than are today being worked, and of such ores there are enormous quantities available. In spite of these facts, the world's future production of gold is a great uncertainty.

Half Flows into Non-Monetary Uses

As for the arts—roughly speaking, something like a half of the world's gold production normally flows into non-monetary uses. One can imagine few things that are affected with a greater international public interest than is the value of gold for monetary purposes; and, on the other hand, one can imagine few things that are affected with less international interest than is the use of gold in the arts. Probably the flow of gold into the arts could be materially restricted by taxes and other governmental measures, if need be, thus leaving to monetary uses a larger proportion of the total annual production than that now obtained under conditions of competition with industrial uses.

If the purchasing power of the gold unit is not to be left to the gyrations resulting from the changes in an uncontrolled production, attention must also be given to the problem of controlling the demand for gold. We need to learn how to economize gold when we have too little, so as to prevent the evils resulting from deflation.

The establishment of the Federal Reserve System made possible economy in the use of gold by mobilizing the reserves for most of the large banks of the country in the Federal Reserve Banks; but, with the flow of gold to this country and the resulting large gold supply here, it became necessary for the Federal Reserve system to experiment in "sterilizing" a portion of this gold so that it would not give rise to dangerous inflation. To this end, the open market operations and discount policies have been in part directed during the last eight years.

Economizing of Gold

In recent years various measures have been proposed and attempted looking toward the economizing of gold, while, on the other hand, the return to the gold standard by a large part of the world has had the effect of increasing the demand for gold. A considerable number of the countries in returning to the gold basis have adopted the gold-exchange standard. The use of

this form of the gold standard decreases the demand for gold by making the currencies redeemable in drafts on foreign banks instead of in gold and by reducing or avoiding entirely the circulation of gold coin.

Other economies in the use of gold have been made possible by the use of the gold bullion standard, as in England, under which notes are redeemable only in gold bars of high values. This, likewise, discourages the circulation of gold coin, although it makes gold available for export. The adoption of the Anglo-Saxon methods of deposit banking, with increased use of checks, and the tendency of the world to increase the rate of turnover of money and of deposits, both make for a lessened demand for gold. The immediate problem then becomes to a large extent one of so economizing the available supply of gold that there will always be an ample margin above the needs of business; and, by means of central banking policies, of so controlling the use of this gold as a basis for notes and deposit currency that neither inflation nor deflation can ensue.

An important contribution to the solution of this problem is to be found in the pioneer work which the Federal Reserve banks have done in the direction of stabilizing commodity price levels in this country and abroad. They have laid the basis for future action both as regards internal policies of central banks and cooperative action among the banks of different countries. With the world aroused to a need for the stabilization of the value of gold and with the beginnings already made, we may look forward with the hope of seeing an ultimate solution of the problem.

List of Articles Which Appeared During 1928 in Cost Section of the Paper Trade Journal

January 5—"A Rational Basis for Industrial Relations," By Arthur Zinkin; "Treatment of Operating Net Loss"; "Bad Debt and Loss Distinguished."

January 12—"The Relation Between Industry and Taxation," By Thomas J. Burke; "The Revenue Bill of 1928."

January 19—"The Corporation Income Tax,"; "Business Control Through Budgeting," By John H. McDonald; "New Calendar Proposed."

February 2—"Accountants' Responsibility for Inventories," By C. Oliver Wellington, Scovell, Wellington & Co.

February 9—"Cost Nomenclature," By Andrew H. Blass, Pittsburgh, Pa.; "Dividends and the Law." (Report of Special Comm. on Definition of Earned Surplus.) "Refuses to Permit Inventory Revision"; "Paper Compared to Other Industries."

February 16—"The Accounting Rut," By V. D. Cahill, North Electric Manufacturing Company, Galion, Ohio; "Report of the Joint Congressional Comm. on Internal Revenue Taxation," By H. Maurice Darling.

March 1—"Overproduction and the Anti-Trust Laws"; "Making Labor Valuable"; "Fire Prevention Costs"; "Corporations and the Income Tax," By T. J. Burke.

March 8—"What Price Management," By J. P. Jordan, Stevenson, Harrison & Jordan; "Changes in Administrative Practice of Revenue Act of 1926, Agreed to by Ways and Means Committee."

March 15—"What Can We Do To Increase Net Profits?", By C. O. Wellington, C. P. A.; "Who Is Your Competitor?"

March 22—"The Distribution of Selling Expenses," By T. D. Nevins, Miller, Franklin & Bassett.

March 29—"The Sherman Act Today"; "Shall the Small Industrial Unit Survive?", By James Harvey Williams.

April 5—"The Business Outlook and Its Bearing on Sales Estimates and Budgets," By Dr. E. O. Merchent.

April 12—"Cost Reduction in the Power Plant," By Reginald Trautschold, Consulting Engineer.

April 19—Costing Problems in Pulp and Paper Industry," By J. H. Wilkie, Auditor, Price Bros. & Co., Ltd., Quebec.

April 26—"Depreciation Practice and Plant Records," By O. E. Fischer; "Appraisal of Fixed Assets."

May 3—"Cost Reduction by Waste Utilization." (Thursday Morning Session, Feb. 1928 Convention.) "Plant Control by Means of Cost Records," By Arthur H. Kaeppel.

May 10—"Planning for Profits," By T. J. Burke, C. A.

May 17—"Cost System Information at a Price You Can Afford to Pay," By Albert T. Bacon, C. P. A.; "Service Accountant Should Render Executive," By Oscar G. Mayer.

May 24—"The Cost of Cost Accounting," By E. F. Papworth.

May 31—"Human Engineering," By Charles M. Schwab.

June 7—"Profit Sharing in the Balance," By Gorton James and Others.

June 14—"Standing Timber as Wasting Asset and Its Conversion into Revenue"; "New Wage Incentive Systems," By M. M. Monroe, Compt., Inland Manufacturing Company, Dayton, Ohio.

June 21—"Wanted—Accurate Accounting of Accident Costs," By Dr. C. E. French; "New Leadership in Business," By Edward A. Filene, Pres., William Filene's Sons Company; "Will You Make Profits in 1928 ", By Ray Vance.

June 28—"Men, Money, Machinery and Materials and Their Relation to Costs," By Thomas J. Burke, C. A.

July 5—"The New Accident Prevention and Compensation Problem," By Ethelbert Stewart; "Shipping Container and Folding Carton Costs," By H. L. Miller.

July 12—"Some Notes on Goodwill as an Item in the Value of a Business," By Sir Gilbert Garnsey, K. B. E., F. C. A; "How The Foreman Can Reduce Costs," By E. H. Fish, Eng., F. C. Hadley Co.

July 19—"Relation Between Sales Promotion and Accounting," By Homer J. Buckley.

July 26—"The Cost Accountant, An Essential to Management," By Harvey Porter; "Internal Auditing," By Alexander A. Piper.

August 2—"Auditors Responsibility for Balance Sheet Values," By Prof. L. R. Dicksee, M. Com., F. C. A.

August 9—"What Information Does the Banker Want?" By Ralph E. Sperry; "Value of the Balance Sheet to the Executive," By Michael H. Sigafoos.

August 16—"Cooperation Between Accountants and Bankers," By William B. Campbell.

August 23—"What is the Cash Basis of Reporting Income?" By Frederick Leon Pearce.

August 30—"Accounting for Mergers," By Charles B. Couchman; "The Certification of Inventories," By John Whitmore.

September 6—"Understanding Budget Preparation," By C. Y. Colgan; "Payroll and Payroll Methods," By Neal S. Doran.

September 13—"Some Results of Business and Market Research," By John C. Kirkwood.

September 20—"Economic Considerations Affecting Commercial Budgets," By John Madden.

September 27—"Valuation for Financial Statements"; "Uniform Reports for Credit Purposes."

October 4—"Cost of Compensated Accidents New York 1927-1928"; "Sound Cost Accounting Advocated for Canadian Manufacturers" By Prof. R. R. Thompson of McGill University.

October 11—"Cost Association Plan for Organization of the

Pulp and Paper Industry on a Sound Cost Basis"; "Souls and Pottage," By Thos. J. Burke, Secy. Treas., Cost Association of the Paper Industry.

October 18—"Working Capital," By J. Garnett Harper, A. C. A.; "Relation of Field Warehousing to Accountancy," By A. T. Gibson; "Evils of the Inquisition"; "Selling Goods Instead of Terms," By Stephen I. Miller, Mgr., National Association of Credit Men.

November 1—"Business Statistics in the Paper Industry," By Stanley Byron, Statistician, Hammermill Paper Company; "Shrinkage?" By C. M. Baker, Engineer, American Paper and Pulp Association.

November 8—"Safety an Executive Responsibility," By Matthew S. Sloan; "Costs and Cotton," By Thos. J. Burke, C. A., Secy. Treas. Cost Association of the Paper Industry; "Fixed Assets and the Plant Ledger," By A. W. Astley, Chemical Paper Mfg. Co., Holyoke, Mass.

November 15—"Cost Cutting Through Time Study," By Walter C. Hasselhorn; "How Group Bonus Aids the Superintendent," By D. B. Kift; "Increasing Actual Selling Time of Salesmen," (Metropolitan Life Ins. Company's Bulletin).

November 22—"Supports Move for Sound Accounting,"—Attendance of Chief Executive of Connecticut, at Work Conference for Protection and Advancement of Industry is Significant-Movement Initiated, by James M. Carney-Treatise on Cost Accounting.

November 29—"How to Handle Losses Covered by Insurance," By Reed B. Timmers; "Distribution Costs and Profit Calculations," By Noel M. Bassin, B. Sc.

December 13—"Standard Cost in the Book Paper Mill," By Breck Aspinwall, Cashier, Oxford-Miami Paper Company.

December 20—"How Well Do you Know your Property?" By A. L. Etzius, American Appraisal Company.

December 27—"Improving Office Efficiency Through Production Standards," By F. L. Larkin.

Interstate Cost Meeting

An Interstate Cost Meeting will be held at Springfield, Mass., on Tuesday, April 23, 1929. The meeting will convene at the Hotel Kimball, at 6:30 P. M., when Dinner will be served, following which, addreses will be given by H. L. Gaudette, C.P.A., chief accountant with the Thompson & Lichtner Company, of Boston, Mass., and Thomas J. Burke, secretary-treasurer of the Cost Association of the Paper Industry.

Mr. Gaudette will talk on the subject of "Cost Controls vs. Cost Systems," while Mr. Burke's subject will be "Capacity and Costs."

An invitation to attend this meeting is hereby extended to all New England mills, to send representatives to attend this meeting.

Any further information regarding it can be obtained either from H. P. Carroll, secretary-treasurer of the Connecticut Valley Division, American Writing Paper Company, Holyoke, Mass., or from T. J. Burke, secretary-treasurer of the Cost Association of the Paper Industry, 18 East 41st street, New York City.

New Combustion Engineering Catalog

The Combustion Engineering Company, of 200 Madison Avenue, New York, has just published a new catalog illustrating and describing the Type K Underfeed Stoker, one of the numerous products manufactured by this organization.

The Type K Stoker is applicable to boilers up to 200 h.p. With this stoker operators of small boilers may secure all the advantages of efficient mechanical stoking at a relatively low investment cost. The Type K Stoker is mechanically simple and easy to operate. Its general design and the method of air distribution employed insures efficient combustion over a fairly wide range of boiler ratings. Practically all grades of bituminous coal are readily burned on this stoker.

Paper Men Speak at Cost Meeting

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, April 2, 1929.—The Dayton Chapter of National Cost Accountants held an interesting meeting the past week at which Eric A. Camman, of Peat, Marwick & Mitchell Company, New York, delivered an address on "Uses of Standard Costs." The session was held at the Engineers Club.

Paper mill men and office forces were keenly interested in the meeting. Mill superintendents were even more keenly alert to the value of such a meeting as standard cost analyses were interpreted by the speaker, as well as others interested in the plans.

Breck Aspinwall, cashier of the Miami Oxford Paper Company, West Carrollton; Thomas B. Frank, past president of the Cincinnati, Ohio, Chapter of the organization and national director of membership, delivered talks. Mr. Frank urged that the Dayton Chapter keep up its good work and maintain its standing which is second in the rate of growth.

Mr. Camman in his address said there were six reasons for costs to vary from standards. They are variation of material costs, material usage, labor rates, labor output, overhead and rate of production.

Attention was called to the International Cost Conference to be held at West Baden, Ind., the third week in June. Dayton members plan to attend this session. West Baden is within comparatively easy motor distance from Dayton, which is only about 35 miles from the east Indiana state line.

The Dayton Chapter reported a number of new members at the Engineers Club meeting and indications were, it was stated, that an even greater increase would be shown at the next meeting. If this record continues Dayton will be decidedly on the map as far as cost accounting research and survey work is concerned.

Indianapolis Demand Not So Active

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., April 8, 1929.—After the first spring rush of a couple of weeks ago, the paper business in this territory has settled down to the usual level. Higher prices on some grades perhaps have had something to do with the situation, for the local buyers feel that any higher prices at the present time are not to be considered.

The buyers, and this applies to printers and all other classes, have curtailed their purchases to a strict consumption basis instead of building up their stocks against possibly higher prices. On the part of the local jobbers, there is active competition for business, but price cutting does not seem as acute as it has been in former times.

Warm weather in this section has had a seasonable effect on some grades. The demand for roofing paper is considerably improved as in fact all grades of building papers. Many of the dealers are convinced this year will see an increase in this line over the past year, when building was not so active. The demand for paper novelties, such as plates and cups is increasing with prices on these grades, including napkins and other tissues, very reasonable.

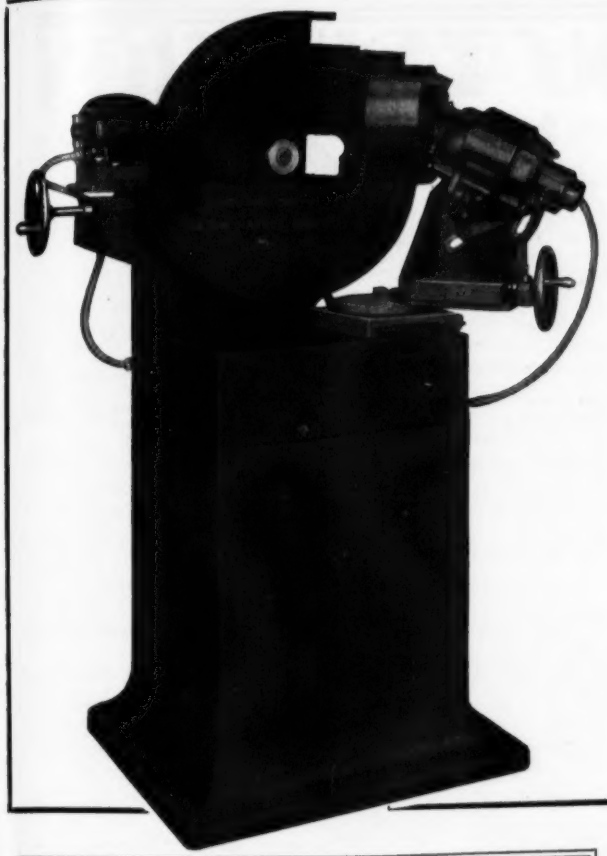
News print is at a low price level and the demand is fair. It is probable that the volume this spring is somewhat improved over this time last year. A fair demand is reported in corrugated and straw board products with heavy grades for carton manufacture apparently improving.

Swedish Paper Men Visit Northwest Mills

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., April 5, 1929.—The Pacific Northwest is being visited by a group of business men from Sweden who are visiting paper mills in the various districts. While registered in Portland they visited the Hawley Pulp and Paper Company's plant at Oregon City and the St. Helens Pulp and Paper Company's plant at St. Helens, Ore., both Hawley properties. They also drove to the Crown-Willamette plant at Camas, Wash.

R. D. Kehoe of New York is accompanying the party which consists of G. Diedrick, T. Hermad, R. Lagergren and B. Lundfeldt.



A Slitter Knife Grinder

For Slitter Knives or Circular Discs

2 to 20 inches diameter

This grinder is designed for the proper fitting of slitter knives.

A motor for the wheel and one for turning the knife gives a smooth, positive knife revolution during the grinding process.

Write for circular.

Covell-Hanchett Co.

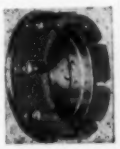
BIG RAPIDS, MICH., U. S. A.

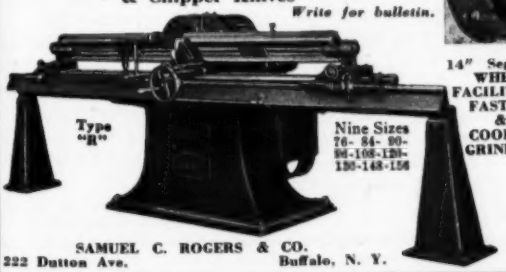
NEW ROGERS TYPE R

SECTIONAL WHEEL KNIFE GRINDER

Widely used for grinding paper & Chipper Knives

Write for bulletin.





14" Segment WHEEL FACILITATES FASTER & COOLER GRINDING

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Our new Casein Department is under the management of G. W. DYNE, who needs no introduction to the Coated Paper Trade.

We invite your inquiries upon Domestic, Argentine, French and other imported Caseins.

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RAGS — BURLAP
BAGGING — ROPE

JUTE BUTTS, MAGAZINES, CATALOGS OLD PAPERS, THREAD WASTE AND ALL GRADES OF RAGS CUT QUICKLY AND EFFICIENTLY WITH THE

GIANT

This is the GIANT 2A CUTTER WITH A CAPACITY OF 3000 lbs. PER HOUR

GIANT RAG CUTTERS HAVE CAPACITIES OF FROM 1 to 5 tons per hour.

THE STANDARD OF THE WORLD FOR 59 YEARS

TAYLOR, STILES & COMPANY

RIEGELSVILLE, N. J.

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GOOD RAGS FOR PAPER MILLS

NEW CUTTINGS

The Leshner Paper Stock Co.

INCORPORATED

HAMILTON, OHIO

BRANCH—CLEVELAND, OHIO

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Park Falls, Wis.—The Kimberly-Clark Corporation, Neenah, Wis., is reported planning construction of new pulp and board mill in the vicinity of Park Falls, comprising several units to cost upward of $500,000, with equipment.

San Francisco Cal.—The Consolidated Paper Box Company, organized a few months ago to take over and merge a group of local paper and paper box manufacturers, is said to have negotiations nearing completion for purchase of Boxboard Products Company and Gilman-Petterson Carton Company, both of San Francisco, and will consolidate with organization. Purchasing company contemplates an expansion and betterment program for enlarged output. It is reported that other local box-manufacturing plants will be purchased later.

Priest River, Idaho—The Pacific States Pulp and Paper Company, Aberdeen, Wash., is said to be perfecting plans for its proposed new pulp and paper mill at Priest River, where a fund of close to $100,000, has been raised to insure the project. It will consist of several units, reported to cost more than $1,000,000, with machinery. H. L. Copeland is president; L. E. Van Winkle is secretary and treasurer, in charge of construction. It is understood that temporary offices under direction of last noted official, will be located in the Spokane Hotel, Spokane, Wash.

Chicago, Ill.—The Evans Fibre Box Company, 3301 West 47th place, manufacturer of fibre boxes and containers, has awarded a general contract to the Vogtborg Construction Co., 251 West 79th street, for proposed one-story, brick and steel mill addition on 46th place, reported to cost about $100,000, with equipment. Work on superstructure will begin at once. A. Epstein, 2001 West Pershing road, Chicago, is architect and engineer.

Chicago, Ill.—The Congress Paper Box Company, 1522 West Adams street, has concluded the purchase of the one-story factory on site, 103x107 feet, at 210-18 North Lincoln street, corner of Walnut street, for reported consideration of $40,000, and will remodel and equip for new plant. It is understood that present factory will be removed to new location, where production will be concentrated.

Bellingham, Wash.—The Puget Sound Pulp and Timber Company, Cornwall avenue, affiliated with the San Juan Pulp & Paper Company, with local mill, is reported planning an addition to Bellingham pulp mill, designed to double present capacity, reported to cost more than $750,000, with equipment. Ossian Anderson is president.

Indianapolis, Ind.—Fire, March 30, destroyed the building at 127-29 South Meridian street, occupied under lease by the Central Wall Paper Company and other interests, primarily for storage and distributing service. A loss reported in excess of $85,000, in stock was sustained by the Central company, which plans to reestablish the business at once in another location. E. L. Osborn is president.

Menominee, Mich.—The Hoskin-Morainville Paper Company, Sheridan Road, is said to have awarded general contract for its proposed new addition, 50x100 feet, to the Selmer Company, McCartney Bank Building, Green Bay, Wis., and work will begin at an early date. It will be used for increased production.

Brooklyn, N. Y.—The Hercules Corrugated Box Company, Borden avenue, Long Island City, has leased space in manufacturing building No. 8 at the Bush Terminal, South Brooklyn, totaling about 50,000 square feet, and will occupy at an early date for a new plant. Present works will be removed to the new location and additional equipment provided for increased capacity.

Scotch Plains, N. J.—Ginsburg Brothers, Inc., 635 Franklin avenue, Nutley, N. J., manufacturer of binder board, etc., has arranged for the sale of its mill at Scotch Plains, formerly known as the Twin Falls Binders Board Mills, Inc., to John Rasmussen and associates. The new owners will take immediate possession and will remodel and improve for a mill for the manufacture of waterproof papers for building service, and kindred specialties. It is understood that additional equipment will be provided for enlarged output.

Chicago, Ill.—The Outlook Envelope Company, 554 West Monroe street, has arranged for lease of space in the building at 1001 West Washington boulevard, and will operate a plant at that location. Present works will be removed to the new space and increased production arranged.

Antioch, Cal.—The Fibreboard Products Company, San Francisco, a subsidiary of the Paraffine Companies, Inc., same city, has awarded a general contract to Barrett & Hilp, 918 Harrison street, for another building at its mill at Antioch, to be one-story, estimated to cost about $25,000, with equipment. The same contractors are completing the erection of a two-story unit at the same location, to be used as a converting mill, estimated to cost close to $100,000, with equipment. Arrangements are being made for the early installation of machinery. Contract for roofing for both structures has been awarded to the Western Roofing Company, 1737 Telegraph avenue, Oakland, Cal. Leland Rosener, 233 Sansom street, San Francisco, is engineer for the two units. The Fibreboard company is engaged in a general expansion program at its different mills, including primarily the plants in Southern California, and it is said that a total fund of close to $2,000,000 will be used for this development.

Philadelphia, Pa.—Fire, April 3, damaged a portion of the factory branch and distributing plant of the Container Corporation of America, Inc., Fountain and Nixon streets, Manayunk, manufacturer of paper boxes and containers. An official estimate of loss has not been announced. The damage will be replaced. Headquarters are at 111 West Washington street, Chicago, Ill.

Emeryville, Cal.—The Paraffine Companies, Inc., San Francisco, Cal., manufacturer of paper products, etc., has work in progress on general expansion program at its mills at Emeryville, including construction of new units and installation of equipment for considerable increase in present output. The entire project is reported to cost more than $500,000, with machinery.

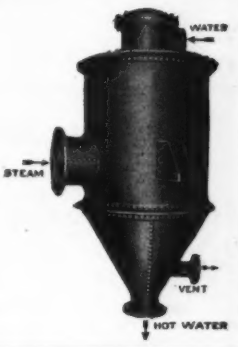
Philadelphia, Pa.—The Reyburn Manufacturing Company, 32nd street and Allegheny avenue, manufacturer of tags, tickets and other general cardboard products, has taken bids on general contract for a new addition to its mill and will make award for erection at an early date. The new unit will be five-story and basement, brick and reinforced-concrete, 100x245 feet, reported to cost close to $375,000, with equipment. Leroy B. Rothschild, 215 South Broad street, Philadelphia, is architect.

MULTI-SPRAY HEATERS

condense the steam from pulp digesters and produce large quantities of hot wash water

14 standard sizes, 2" to 36". Water capacities 1000 G.P.H. to 140,000 G.P.H.

Complete information on request



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1255 N. 12th STREET
PHILADELPHIA, PA.

FIDALGO DRYING SYSTEMS

Experience in complete installations make Satisfied Customers

SPECIAL PROVEN APPARATUS

FOR

BLEACHED PULP

Many years experience in connection with Bleached Textiles.

NEW TYPE PULP SHREDS COMING OFF DRYERS. UNION BAG PULP MILL, TACOMA, WASH.

Users prefer pulp dried by this system. Complete patent protection guaranteed.
Same strength in beater with new shred as wet pulp.

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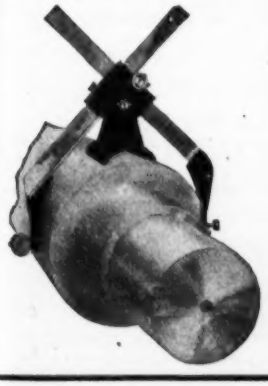
TELEPHONE WHITEHALL 5243 **40 RECTOR ST., N. Y. CITY** **CABLE—HERENCO**



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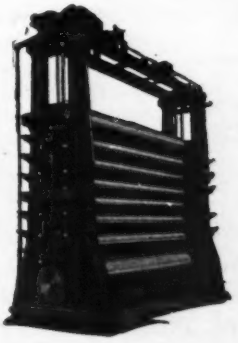
Chilled Iron Calender and Press Rolls
Automatic Roll Grinding Machines
Improved Micrometer Roll Calipers

LOBDELL CAR WHEEL COMPANY

Established 1836

WILMINGTON, DELAWARE.



Imports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING APRIL 6, 1929

SUMMARY

Cigarette paper .....715 cs.
Wall paper .....8 bls., 15 cs.
Paper hangings .....32 bls., 6 cs.
Hanging paper .....6 cs.
News print .....659 rolls
Printing paper .....30 rolls, 58 cs.
Packing paper .....23 cs.
Filter paper .....21 bls., 14 cs.
Drawing paper .....62 cs.
Decalcomania paper .....32 cs.
Coated tissue paper .....4 cs.
Tissue paper .....62 cs.
Writing paper .....80 cs.
Baryta coated paper .....93 cs.
Surface coated paper .....85 cs.
Gold coated paper .....5 cs.
Colored paper .....37 cs.
Photo paper .....7 cs.
Stencil paper and ink .....100 cs.
Transparent greaseproof paper .....59 cs.
Coated paper .....7 cs.
Cover paper .....1 cs.
Sulphate paper .....443 rolls
Litho paper .....1 cs.
Tracing paper .....5 cs.
Envelopes .....37 cs.
Miscellaneous paper .....20 pkgs., 145 cs.

CIGARETTE PAPER

American Tobacco Co., Vermont, Bordeaux, 200 cs.
P. J. Schweitzer, Pr. Polk, Marseilles, 92 cs.
Max Seigel & Son, Pr. Polk, Genoa, 9 cs.
British American Tobacco Co., Olympic, Southampton, 68 cs.
Standard Products Corp., Paris, Havre, 346 cs.

WALL PAPER

F. J. Emmerich, Baltic, Liverpool, 3 bls.
F. J. Emmerich, A. Ballin, Hamburg, 6 cs., 5 bls.
Irving Trust Co., A. Ballin, Hamburg, 5 cs.
Tobias & Co., A. Banker, London, 1 cs.
A. C. Dodman Jr., Inc., Mauretania, Southampton, 2 cs.
A. W. Fenton, Inc., Mauretania, Southampton, 1 cs.

PAPER HANGINGS

A. C. Dodman Jr., Inc., Baltic, Liverpool, 13 bls.
W. H. S. Lloyd & Co., Baltic, Liverpool, 1 cs.
W. H. S. Lloyd & Co., Minnekahda, London, 19 bls., 5 cs.

HANGING PAPER

Portenoy Co., Paris, Havre, 1 cs.
W. H. S. Lloyd & Co., Paris, Havre, 5 cs.

NEWS PRINT

Hudson Trading Co., Milos Gothenburg, 331 rolls.
Perkins Goodwin & Co., A. Ballin, Hamburg, 328 rolls.

PRINTING PAPER

Gallagher & Ascher, Dresden, Bremen, 3 cs.
P. C. Zuhlke, Dresden, Bremen, 11 cs.
Keuffel & Esser Co., A. Ballin, Hamburg, 30 rolls, 17 cs.
E. Dietzgen & Co., Blommersdyk, Rotterdam, 27 cs.

PACKING PAPER

International F'd'g Co., A. Ballin, Hamburg, 23 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Minnekahda, London, 9 cs.
American Express Co., Pr. Polk, Marseilles, 1 ble.
A. Giese & Son, Olympic, Southampton, 20 bls.
C. Schleicher Schull Co., A. Ballin, Hamburg, 5 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., Minnekahda, London, 9 cs.
Keuffel & Esser Co., A. Ballin, Hamburg, 53 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Baltic, Liverpool, 25 cs. (Simplex).
C. W. Sellers, A. Ballin, Hamburg, 7 cs.

COATED TISSUE PAPER

W. J. Byrnes, Mauretania, Southampton, 4 cs.

TISSUE PAPER

B. J. Drakenfeld & Co., Baltic, Liverpool, 6 cs.
P. J. Schweitzer, Pr. Polk, Marseilles, 6 cs.
Old Master Paper & Pulp Corp., A. Ballin, Hamburg, 50 cs.

WRITING PAPER

American Express Co., Pr. Polk, Marseilles, 75 cs.
G. W. Sheldon & Co., Olympic, Southampton, 3 cs.
The Eleta Co., Mauretania, Southampton, 2 cs.

BARYTA COATED PAPER

Globe Shipping Co., Dresden, Bremen, 43 cs.
J. H. Schroeder Banking Corp., Dresden, Bremen, 50 cs.

SURFACE COATED PAPER

P. C. Zuhlke, Dresden, Bremen, 60 cs.
Globe Shipping Co., A. Ballin, Hamburg, 1 cs
Quality Art Novelty Co., A. Ballin, Hamburg, 20 cs.
Phoenix Shipping Co., A. Ballin, Hamburg, 4 cs.

GOLD COATED PAPER

F. Murray Hill, Dresden, Bremen, 5 cs.

COLORED PAPER

Universal Car Loading Co., Dresden, Bremen, 13 cs.
S. Gilbert, Dresden, Bremen, 19 cs.
J. Beckhard, Dresden, Bremen, 5 cs.

PHOTO PAPER

J. H. Schroeder Banking Corp., Dresden, Bremen, 4 cs.
J. J. Gavin, Athenia, Liverpool, 3 cs.

STENCIL PAPER AND INK

Arlac Dry Stencil Co., A. Ballin, Hamburg, 100 cs.

TRANSPARENT GREASE PROOF PAPER

Central Union Trust Co., A. Ballin, Hamburg, 59 cs.

COATED PAPER

Pacific National Bank, A. Ballin, Hamburg, 7 cs.

COVER PAPER

International F'd'g Co., A. Ballin, Hamburg, 1 cs.

SULPHATE PAPER

Insight Paper Co., Bergensfjord, Oslo, 443 rolls.

LITHO PAPER

K. Beetar Inc., Roma, Genoa, 1 cs.

TRACING PAPER

Keuffel & Esser Co., A. Ballin, Hamburg, 5 cs.

ENVELOPES

J. Beckhard, Dresden, Bremen, 37 cs.

MISCELLANEOUS PAPER

Hoboken Trust Co., C. Biancamano, Genoa, 15 cs.
Judson Freight F'd'g Co., Dresden, Bremen, 9 cs.
Titan Shipping Co., Dresden, Bremen, 10 cs.
S. Gilbert, Dresden, Bremen, 14 cs.
E. Lloyd Paper Co., Pr. Polk, Genoa, 5 cs.
Japan Paper Co., Pr. Pork, Genoa, 2 cs.
F. C. Strype, Pr. Polk, Genoa, 1 cs.
Japan Paper Co., Paris, Havre, 7 cs.
Keller Dorian Paper Co., Paris, Havre, 6 cs.
Hensel Bruckman & Lorbacher, Paris, Havre, 20 pkgs.
P. Puttmann, Paris, Havre, 13 cs.
P. J. Schweitzer, Paris, Havre, 20 cs.
Vernon Bros. & Co., Cameronia, Glasgow, 34 cs.
R. Wilson Paper Co., Cameronia, Glasgow, 9 cs.

RAGS, BAGGINGS, ETC.

Manufacturers Trust Co., Milos, Githenburg, 8 bls. rags.
E. J. Keller Co., Inc., Exmoor, ——, 135 bls. rags.
E. J. Keller Co., Inc., Exmoor, ——, 82 bls. bagging.
Equitable Trust Co., Vermont, Havre, 79 bls. rags.
Merchants National Bank, Vermont, Havre, 71 bls. rags.
Brown Bros. & Co., Vermont, Havre, 83 bls. rags.
E. Mayer, Yeifuku Maru, Hamburg, 19 bls. rags.
Whaling Waste Products Co., Yeifuku Maru, Hamburg, 119 bls. jute waste.
H. Schimmel, Artigas, Manchester, 33 bls. coton waste.
V. Seyen, Artigas, Manchester, 30 bls. cotton waste.
Leigh Textile Co., Artigas, Manchester, 44 bls. cotton waste.
Ayres W. C. Jones Co., Inc., Artigas, Manchester, 75 bls. cotton waste.
Brown Bros. & Co., Artigas, Manchester, 61 bls. new cuttings.
P. Berlowitz, Exhibitor, Barcelona, 134 bls. rags.
E. Butterworth & Co., Inc., Exhibitor, Barcelona, 125 bls. rags.
J. Cohen Sons & Co., Inc., Baltic, Liverpool, 19 bls. paper stock.
National City Bank, Dresden, Bremen, 49 bls. rags.
A. W. Fenton, Inc., Amer. Banker, London, 48 bls. rags.
French American Banking Corp., Maria, Bari, 51 bls. rags.
Brown Bros. & Co., A. Ballin, Hamburg, 63 bls. rags.
Bank of The United States, A. Ballin, Hamburg, 36 bls. rags.
Overton & Co., Blommersdyk, Rotterdam, 566 bls. bagging.
Overton & Co., Blommersdyk, Rotterdam, 34 bls. rags.
National City Bank, Blommersdyk, Rotterdam, 14 bls. rags.
R. F. Downing & Co., Blommersdyk, Rotterdam, 110 bls. bagging.
Katzenstein & Keene, Inc., Blommersdyk, Rotterdam, 256 bls. rags.
Brown Bros. & Co., Athenia, Liverpool, 52 bls. paper stock.
J. Cohen Sons & Co., Inc., Athenia, Liverpool, 23 bls. rags.
E. J. Keller Co., Inc., London Exchange, ——, 41 bls. rags.
E. J. Keller Co., Inc., London Exchange, ——, 61 bls. flax waste.
T. D. Downing & Co., London Exchange, Dundee, 9 bls. paper stock.
Bank of The Manhattan Co., London Exchange, Dundee, 19 bls. rags.
Whaling Waste Products Co., London Exchange, Dundee, 111 bls. rags.
Bank of The Manhattan Co., Cameronia, Glasgow, 174 bls. rags.
C. R. Spence, Cameronia, Glasgow, 31 bls. rags.
Brown Bros. & Co., Cemeronia, Glasgow, 136 bls. rags.
A. H. Searle, Inc., Cameronia, Glasgow, 242 bls. rags.
T. D. Downing & Co., Cameronia, Glasgow, 98 bls. rags.
Anglo South American Trust Co., Cameronia, Glasgow, 108 bls. rags.
Equitable Trust Co., Cameronia, Glasgow, 45 bls. rags.
A. W. Fenton, Inc., Cameronia, Glasgow, 71 bls. bagging.
A. W. Fenton, Inc., Cameronia, Glasgow, 166 bls. rags.
D. M. Hicks, Innoko, Rotterdam, 192 bls. flax waste.
E. J. Keller Co., Inc., Innoko, ——, 187 bls. flax waste.
E. J. Keller Co., Inc., Innoko, ——, 187 bls. rags.

OLD ROPE

W. Schall & Co., Dresden, Bremen, 141 bls.
Brown Bros. & Co., United States, Copenhagen, 549 coils.
Brown Bros. & Co., Alfonso XIII, Coruna, 41 bls.
Brown Bros. & Co., A. Ballin, Hamburg, 56 coils.
Brown Bros. & Co., Blommersdyk, Rotterdam, 89 coils.
Brown Bros. & Co., London Exchange, London, 61 coils.

CHINA CLAY

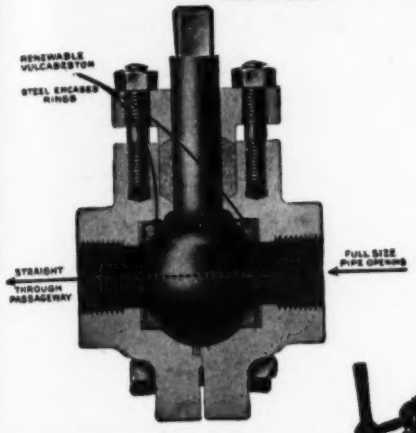
L. A. Salomon Bro. Baltic, Liverpool, 75 cks.

(*Continued on page 70*)

FAIRBANKS' "SPHERO"

The Perfect "Blow-Off" Valve

PATENTED



Especially adapted to the requirements of the paper manufacturing industry. The 6 inch and 8 inch sizes, with flanged ends are used extensively as blow-offs on digesters.

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Air tight blower lines do not waste power... TAYLOR *Spiral Riveted* PIPE

Completely fabricated in our plant from your sketches. Shipped ready for erection.

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of Purified Cellulose Fibre representing some of the valuable results of our many years of research in cellulose chemistry.

SUPER ALPHA

for strength in Tear, Fold and Mullen. Super Alpha equals the higher grades of rags in the manufacture of fine papers.

EASY-BEATING ALPHA

This is a grade developed for mills of limited beating capacity. While not giving results equal to Super Alpha, it produces wonderful paper on short beating.

REGULAR ALPHA

This is a grade midway between Super and Easy-Beating.

Use ALPHA for Quality

BROWN Company B Co FOUNDED 1852 Portland, Maine

West Virginia Pulp and Paper Company

Manufacturers of

SUPERCALENDERED and MACHINE FINISHED BOOK and LITHOGRAPHIC PAPERS

Offset, Envelope, Bond, Writing, Cover and Music Paper, High Grade Coated Book, Index Bristol, Post Card, Kraft and Label Papers.

also

Bleached Spruce Sulphite and Soda, Kraft Pulp

200 Fifth Avenue New York — 35 East Wacker Drive Chicago

508 Market St., San Francisco, Cal.

Sixth and Chestnut Sts., Philadelphia, Pa.

Imports of Paper and Paper Stock

(*Continued from page 68*)

CASEIN

T. M. Duche & Sons, Voltaire, Buenos Ayres, 834 bags.
National City Bank, Voltaire, Buenos Ayres, 1246 bags.
Tradesman's National Bank, Corsican Prince, Buenos Ayres, 417 bags, 25020 kilos.
Casein Manufacturing Co., Corsican Prince, Buenos Ayres, 250 bags, 15000 kilos.

WOOD FLOUR

State Chemical Co., Sac City, Rotterdam, 400 bls., 20000 kilos.
B. L. Soberski, Tyrifjord, Frederickstad, 4500 bags.
State Chemical Co., Blommersdyk, Rotterdam, 880 bags.
A. Kramer & Co., Blommersdyk, Rotterdam, 400 bags.
W. Von Doorn, Blommersdyk, Rotterdam, 200 bales.

WOOD PULP

E. M. Sergeant & Co., Milos, Gothenburg, 1196 bls. dry soda pulp.
J. Anderson & Co., Milos, Gothenburg, 500 bls. sulphite.
Price & Pierce, Ltd., Milos, Gothenburg, 650 bls. wood pulp.
M. Gottesman & Co., Inc., Milos, Gothenburg, 2275 bls. sulphate.
Chemical National Bank, Milos, Gothenburg, 750 bls. sulphate.
Bulkley Dunton & Co., Milos, ——, 7700 bls. wood pulp.
Chemical National Bank, Tyrifjord, Tofte, 180 bls. sulphite.
J. Andersen & Co., Tyrifjord, Greaker, 2160 bls. sulphite.
O. E. Kiaer, Tyrifjord, Greaker, 500 bls. sulphite.
E. J. Keller Co., Inc., Bergensfjord, ——, 400 bls. sulphite.
E. J. Keller Co., Inc., Dresden, ——, 400 bls. wood pulp.
Atterbury Bros., Inc., United States, Oslo, 750 bls. wood pulp.
A. P. W. Paper Co. (Albany, N. Y.), Nord Sheet Harbor N. S. 30402 bls. wood pulp, 2246 tons.
Castle & Overton, Inc., A. Ballin, Hamburg, 1275 bls., wood pulp, 191 tons.
Perssons & Weidhorn, Innoko, Rotterdam, 27 cases wood pulp.

BALTIMORE IMPORTS

WEEK ENDING APRIL 6, 1929

C. K. MacAlpine & Co., Milos, Gothenburg, 26 bls. paper.
Parsons & Whittemore, Inc., Milos, Gothenburg, 750 bls. sulphite.
Price & Pierce, Ltd., Milos, Gothenburg, 6150 bls. sulphate.
Baltimore Trust Co., Vermont, Havre, 82 bls. rags.
E. Butterworth & Co., Inc., Innoko, Rotterdam, 97 bls. rags.
W. H. Masson, Innoko, Rotterdam, 71 coils old rope.
Congoleum Nairn Co., Innoko, Rotterdam, 303 bls. rags.
Congoleum Nairn Co., Innoko, Rotterdam, 25 bls. bagging.
Bulkley Dunton & Co., Tortugas, ——, 3325 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING APRIL 6, 1929

E. Butterworth & Co., Inc., Innoko, Rotterdam, 207 bls. bagging.
British American Tobacco Co., Innoko, Rotterdam, 63 cs. printed cigarette wrappers.
Katzenstein & Keene, Inc., Innoko, Rotterdam, 131 bls. rags.
Bank of New York, Innoko, Rotterdam, 227 bls. bagging.

NEWPORT NEWS IMPORTS

WEEK ENDING APRIL 6, 1929

British American Tobacco Co., Innoko, Rotterdam, 50 rolls wrapping paper.

BOSTON IMPORTS

WEEK ENDING APRIL 6, 1929

Bulkley Dunton & Co., Tyrifjord, ——, 1000 bls. wood pulp.
Farmers Loan & Trust Co., Tyrifjord, Oslo, 480 bls. sulphite, 60 tons.
American Exchange Irving Trust Co., Tyrifjord, Oslo, 250 bls. wood pulp 50 tons.
Johanson, Wales & Sparre, Inc., Tyrifjord, Katfos, 55 bls. wood pulp 11 tons.
Chemical National Bank, Tyrifjord, Tofte, 750 bls. sulphite 122 tons.
O. E. Kiaer, Tyrifjord, Greaker, 250 bls. sulphite, 50 tons.
Baring Bros. & Co., Mississippi, London, 168 bls. waste paper.
2nd National Bank of Boston, Mississippi, London, 216 bls. paper stock.
J. B. Moors & Co., Mississippi, London, 109 bls. rags.
Brown Bros & Co., Mississippi, London, 197 bls. old rope.
Crocker Burbank Co., Mississippi, London, 827 bls. waste paper.
1st National Bank of Boston, Corsican Prince, Buenos Ayres, 834 bags casein 50040 kilos.
Atkinson Haserick & Co., Pr. Polk, Genoa, 1 cs. papes.
Bulkley Dunton & Co., Topdalsfjord, ——, 5250 bls. wood pulp.
Bulkley Dunton & Co., Kari, Skogland, ——, 300 bls. wood pulp.

A Correction

EDITOR, PAPER TRADE JOURNAL:—

CHICAGO, ILL., APRIL 3, 1929.

I would refer you to page 24 of your March 21 issue of the PAPER TRADE JOURNAL and in particular to an item on that page entitled "Freight Rate Fight Lost." There are two things wrong with this article. The first is in the caption or headline and the second is wherein you point out that the Wisconsin paper mills "lost out on a recent move to readjust Eastern freight rates, etc." In the first place the fight was not lost, and the second the Wisconsin mills did not make any recent move to readjust Eastern freight rates so that the mills in the Seaboard area "would not be at a disadvantage in the Chicago market." It should be quite obvious to anyone that the Wisconsin mills are not interested in readjusting rates for Eastern competitiors.

The case referred to was, as stated in the article, brought about by the St. Regis Paper Company, of Watertown, N. Y. In that case St. Regis attacked the rates from Wisconsin to the territory east of the Mississippi River and north of the Ohio River, claiming that the rates from Wisconsin were too low as compared with the rates from Watertown.

The Wisconsin mills intervened in the case to protect their interest which was against the possibility of an advance in the rates from Wisconsin to the destination territory involved.

It is wrong for you to say that the freight rate fight was lost because there has been no decision as yet rendered but merely a report of the attorney examiner who heard the case and who has made certain recommendations which he may, or may not expect the Commission to adopt as its final decree. So far as the rates from the Wisconsin mills are concerned the examiner does not propose any changes, therefore our part of the fight would be considered as having been won if the examiner's report was final.

It may be here stated that the report does not recommend for the complainants, the St. Regis Paper Company, and others, all they sought or asked for and it would also increase rates from certain other and more distant eastern shipping points. The report recommends that certain readjustments be made from mills in the northern New York district to the central states territory including Chicago and St. Louis, based upon the Commissioner's findings in the so-called Eastern class rate investigation and which undoubtedly will not be definitely decided for a year or more.

I know that it is not your desire to print wrong information and inasmuch as the article referred to would give the impression that this association has failed in its efforts to protect the interest of its mills, I am calling your attention to the matter.

J. E. BRYAN, TRAFFIC MANAGER
Wisconsin Paper & Pulp Mfrs. Traffic Ass'n.

Goes With Walker-Goulard-Plehn

Fred G. Marquardt is now associated with the Walker-Goulard-Plehn Company, Inc., of 448-450 Pearl street, New York, and in charge of the Mill Supply Department of the company. Mr. Marquardt is widely known and fully experienced in the paper stock industry, having spent many years in the paper mill supplies trade, for the last seven years with the Marquardt-Hewitt Corporation of 16-24 Ferry street, New York, which corporation is now being dissolved; the good will, unfilled orders and contracts being assigned to the Walker-Goulard-Plehn Company, Inc., by which they will be executed.

The Walker-Goulard-Plehn Company, Inc., is successor to the Maurice O'Meara Company, established in 1855 and for many years among the leading paper jobbers and paper mill supply concerns in the country. Mr. Marquardt will manage the Mill Supply Department of the company and will be assisted by Morris Reich.

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LOCKWOOD TRADE JOURNAL CO.
10 East 39th St., New York City

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, April 10, 1929.

Trading in the local paper market was only moderately active during the past week. Demand for many of the standard grades of paper fell off slightly, but the position of the industry is considered sound, in most quarters. Sales forces of the leading paper organizations are generally optimistic regarding the future, and prices are holding to schedule, in most instances.

Contract shipments of news print were heavier than for some time, during the past week. According to statistics gathered by the News Print Service Bureau, production in the United States and Canada was maintained at about 81 per cent of capacity. As advertising is gradually expanding and circulations are increasing, the future outlook is bright.

Some improvement was noticed in the paper board market. Demand for the various grades was persistent and prices were somewhat firmer. No radical changes were recorded in the fine paper market. The coarse paper market was rather quiet and while the recently advanced prices were maintained, some resistence on the part of consumers was experienced.

Mechanical Pulp

The position of the ground wood market is practically unchanged. Most of the business transacted during the past week was along routine lines. Contract shipments are going forward in a normal manner but the spot demand is rather light. Quotations on both imported and domestic grades of mechanical pulp are generally holding to schedule and shading is infrequent.

Chemical Pulp

Steadiness continues to prevail in the chemical pulp market. Swedish producers, in particular, are well sold ahead, and a good volume of the 1930 output has already been contracted for. Both imported and domestic bleached sulphite are exhibiting a strong undertone. Imported easy bleaching sulphite is firmer and is now quoted at from $2.90 to $3.10. With the exception of kraft pulp, which is slightly weaker, all other grades are holding their own.

Old Rope and Bagging

The old rope market is still displaying an excellent tone. Demand for foreign and domestic old manila rope is heavy. Supplies are rather limited and prices are firm. Mixed strings are moving more freely than of late. The bagging market rules fairly steady. Roofing bagging is in good request and scrap bagging is showing a firmer tendency. Gunny is only moderately active.

Rags

Mill interest in the domestic rag market was more pronounced than of late. New rags were in better request than for some time and quotations ruled steady. Old rags were also in fairly good demand and roofing grades were particularly active. The foreign rag market continues to exhibit strength, and the situation abroad is very firm, due to unusually heavy European demand.

Waste Paper

Easier conditions prevailed in the local paper stock market during the past week. Quotations on the lower grades declined, owing to the falling off in demand from the board mills. No. 1 white news is now selling at from 1.65 to 1.75; Strictly over-issue at from .75 to .85; Strickly folded at from .63 to .68 and No. 1 mixed paper at from .48 to .58.

Twine

Although the demand for the various grades of twine has fallen off slightly, the market is still in a sound position. The immediate outlook is considered fairly promising by many competent authorities on the industry. Prices are generally being maintained at previously quoted levels and there is little talk of concessions around.

Boston Paper Trade Happenings

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., April 8, 1929—The firm of John Carter & Co., Inc., gave their annual goodwill party to all their employes at the Elks Hotel Saturday evening. The affair was also in commemoration of the completion of fifty years service on March 30 of Catano Fratus, who has been credit manager for a number of years. Albert P. Carter, president of the company, gave the welcome. W. C. Graham, a salesman, was chairman of the committee on arrangements. An entertainment was included in the program and about 100 guests passed a highly enjoyable evening. At the annual meeting of stockholders of the Stone & Forsyth Company, April 2, two new names were added to the board of directors—Ferdinand J. L. Hoss and Percy D. Wyman. Mr. Hoss, who has been in the employ of the company 36 years, and for some time clerk of the board, now becomes secretary of the corporation. Mr. Wyman has been manager of the cordage and twine department for the last fifteen years.

Arthur E. Ham & Sons have mailed samples of Merrimade Folding Coated, showing its color, printing and folding qualities. It is used for enclosures, booklets, catalogs, and broadsides.

The next meeting of the New England Paper Merchants' Association is to be held at New Haven, Conn., May 7 and 8.

The Fine Paper Division of the New England Paper Merchants' Association held a luncheon meeting at the Chamber of Commerce Tuesday with a good attendance.

Frank E. Floyd, secretary of the National Paper Trade Association of the United States, was in town Wednesday to discuss association matters with officers of the New England Association.

Llewellyn A. Marr, New England representative of the St. Regis Paper Company, and Mrs. Marr, and R. J. Parham, of New York, manager of sales of the same company, with Mrs. Parham, have returned from a month's tour of Florida.

Graver Hot Process Water Softener

The Graver Corporation, East Chicago, Ind., has just issued a new catalogue, 12 pages and cover, describing its Hot Process Water Softener.

The catalogue is well illustrated with views of installations and the component parts of the softener. Several tables are given showing the savings which have been made in various power plants by this softener.

A feature of this catalogue is a flow sheet in colors. It is printed on an extension of the front cover so that the reader may have it before him when reading the descriptive matter. Copies may be had on application to the Graver Corporation.

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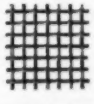

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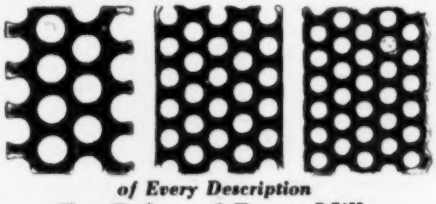

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, April 10, 1929.

BLANC FIXE.—Steadiness prevails in the blanc fixe market. Both the pulp and the powder are in normal demand for the season. Prices remain unchanged. The pulp is quoted at from $42.50 to $45.00 per ton, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market is practically unchanged. Supplies are moving into consumption in good volume. Prices are generally holding to previously quoted levels. Bleaching powder is selling at from $2.00 to $2.35 per 100 pounds, in large drums, at works.

CASEIN.—Most of the business transacted in the casein market was routine. Domestic casein is still quoted at from 16 cents to 16¼ cents per pound, while standard ground imported is selling at 16 cents per pound and finely ground imported at 16¼ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—The caustic soda market is exhibiting a strong undertone. Prices are holding to schedule without difficulty. Solid caustic soda is quoted at from $2.90 to $2.95, while the flake and the ground are selling at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—Trading in the china clay market was moderately active. The contract movement continues well up to average. Prices rule steady. Imported china clay is quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—The chlorine market is in a sound position. Supplies are moving into consumption at a normal pace. Prices are unchanged. Chlorine is quoted at 3 cents per pound, in tanks, or multi-unit cars, at works, on standard contracts. The spot quotation ranges from 3¼ cents to 3½ cents per pound.

ROSIN.—The rosin market was irregular. At the naval stores, the grades of gum rosin used in the paper mills are now quoted at from $8.20 to $8.70 per 280 pounds, ex dock, in barrels. Wood rosin is selling at from $6.80 to $7.60 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Demand for salt cake is persistent and with offerings still decidedly scarce, prices rule steady to firm. There are numerous inquiries in the market for future business. Salt cake is quoted at from $16 to $18 per ton, while chrome salt cake is selling at from $14 to $15 per ton, in bulk, at works.

SODA ASH.—The soda ash market is displaying a strong tendency. Production is being maintained in sufficient volume to take care of current requirements. Prices remain unaltered. Contract quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bags, $1.32 ½; and in barrels, $1.55.

STARCH.—Supplies of starch are moving into consumption in a satisfactory manner. The starch market is moderately active. Prices are holding to previously quoted levels, in most instances. Special paper making starch is quoted at $3.82 per 100 pounds, in bags, and at $3.99 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—No radical changes were reported in the sulphate of a lumina market. Prices are generally holding to schedule and shading is infrequent. Commercial grads of sulphate of alumina are quoted at from $1.40 to $1.55 and iron free at from $1.95 to $2.05 per 100 pounds.

SULPHUR.—The sulphur market continues to display a strong tendency. Sulphur is still quoted at $18 per ton, in lots of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Business in the talc market is seasonal. Demand for this product is fairly satisfactory. Prices are generally holding to previously quoted levels. Domestic talc is quoted at from $16 to $18 per ton, at eastern mines, while imported talc is selling at from $18 to $20 per ton, shipside.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	8.00	@11.00
Book, Cased—		
S. & S. C.	6.00	@ 7.50
M. F.	5.75	@ 7.00
Coated and Enamel	7.50	@12.00
Lithograph	7.50	@12.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.35	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .80
Kraft	1.00	@ 1.10
Manila	.75	@ .80
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	5.25	@ 5.50
Southern	4.25	@ 4.50
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

News—		
Rolls, contract	62.00	@ —
Rolls, spot	62.00	@ —
Sheets	67.00	@ —
Side Runs	47.00	@52.00
Boards—per ton—		
News	35.00	@42.50
Straw	52.50	@55.00
Chip	32.50	@40.00
Binders' Boards	65.00	@67.50
Sgl. Mla. Ll. Chip	45.00	@47.50
Wood Pulp	80.00	@85.00
Container	52.50	@55.00
85 Test Jute Liner	50.00	@52.50

Mechanical Pulp

(Ex-Dock)

No. 1 Imported—		
Moist	28.00	@31.25
Dry	32.00	@34.00

(F. o. b. Mill)

No. 1 Demestic	26.00	@29.00
Screenings	15.00	@20.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.75	@ 4.40
Easy Bleaching	2.90	@ 3.10
No. 1 strong unbleached	2.60	@ 2.80
Mitscherlich unbleached	2.60	@ 3.25
No. 2 strong unbleached	2.40	@ 2.50
No. 1 Kraft	2.40	@ 2.75
No. 2 Kraft	2.35	@ 2.50
Sulphate—		
Bleached	375	@ 3.85

(F. b. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.40	@ 4.75
Easy Bleaching Sulphite	2.60	@ 2.75
News Sulphite	2.40	@ 2.50
Mitscherlich	3.00	@ 3.25
Kraft (Domestic)	2.50	@ 3.30
Soda Bleached	3.25	@ 3.40
Sulphate Screenings—		
Coarse	.75	@ .95
Refined	1.65	@ 1.85

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	11.00	@11.50
New White, No. 2	8.00	@ 8.50
Silesias No. 1	7.50	@ 8.00
New Unbleached	11.00	@11.50
Washables	4.50	@ 5.00
Fancy	5.50	@ 6.00
Blue Overall	7.00	@ 7.50
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O. D. Khaki Cuttings	5.15	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.50	@ 5.00
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.50	@ 2.75
St. Soiled, White	2.00	@ 2.15
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.55	@ 1.65
No. 3	1.30	@ 1.40
No. 4	1.25	@ 1.35
No. 5A	.90	@ 1.05

Foreign Rags

New Rags

New Dark Cuttings	2.50	@ 3.00
New Mixed Cuttings	2.75	@ 3.25
New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.50	@ 8.00
Unbleached Cuttings	10.00	@11.00
New White Cuttings	10.50	@11.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50

Old Rags

No. 1 White Linens	7.25	@ 8.00
No. 2 White Linens	5.50	@ 6.25
No. 3 White Linens	4.50	@ 5.00
No. 4 White Linens	3.00	@ 3.50
No. 1 White Cotton	5.50	@ 6.50
No. 2 White Cotton	4.50	@ 5.50
No. 3 White Cotton	3.00	@ 4.00
No. 4 White Cotton	1.90	@ 2.15
Extra Light Prints	2.75	@ 3.25
Ord. Light Prints	2.25	@ 2.50
Med Light Prints	1.90	@ 2.10
Dutch Blue Cottons	2.20	@ 2.40
French Blue Linens	2.75	@ 2.85
German Blue Linens	2.35	@ 2.55
German Blue Cottons	2.15	@ 2.25
Checks and Blues	1.85	@ 2.00
Lindsay Garments	1.90	@ 2.00
Dark Cottons	1.65	@ 1.70
Old Shopperies	1.55	@ 1.60
New Shopperies	1.50	@ 1.60
French Blues	2.10	@ 2.25

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.65	@ 1.75
Domestic	1.70	@ 1.75
Wool Tares, light	1.60	@ 1.65
Wool Tares, Heavy	1.65	@ 1.75
Bright Bagging	1.65	@ 1.70
Small Mixed Rope	1.25	@ 1.40
Manila Rope—		
Foreign	4.25	@ 4.50
Domestic	4.50	@ 4.75
New Burlap Cut	2.75	@ 3.00
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, white, No. 1	3.25	@ 3.50
Hard, white, No. 2	2.40	@ 2.55
Soft, White, No. 1	2.50	@ 2.60
White envelope cuttings	3.25	@ 3.50
Flat Stock—		
Stitchless	1.60	@ 1.70
Overissue Mag.	1.60	@ 1.70
Solid Flat Book	1.50	@ 1.60
Crumpled No. 1	1.15	@ 1.25
Solid Book Ledger	2.00	@ 2.10
Ledger Stock	1.70	@ 1.80
New B. B. Chips	.65	@ .75
New Env. Cut	2.40	@ 2.60
Manilas—		
New Cuttings	1.60	@ 1.85
Extra No. 1 old	1.25	@ 1.35
Print	.75	@ .80
Container	.60	@ .65
Bogus Wrapper	.75	@ .85
Old Kraft Machine Compressed bales	1.70	@ 1.80
News—		
No. 1 White News	1.65	@ 1.75
Strictly Overissue	.75	@ .85
Strictly Folded	.63	@ .68
No. 1 Mixed Paper	.48	@ .58
Common Paper	.30	@ .35

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Felts for all grades of paper.
They meet all conditions and suit all requirements.
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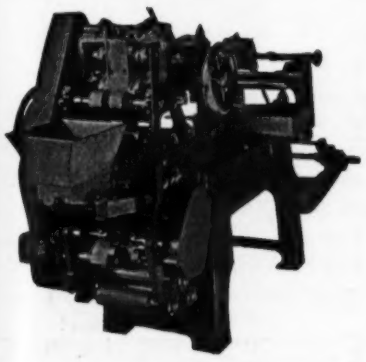

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Twines
(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.21	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine			
Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

All Rag Bond	.35	@	.41
No. 1 Rag Bond	.25	@	.34
No. 2 Rag Bond	.14	@	.25
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¼	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06¼
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¾	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.06¼	@	.06½
Southern Kraft	.03¾	@	.04
No. 2 Kraft	.04	@	.04¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07¾
White Tissue—			
20x30 Sheet	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	37.50	@	41.00
Solid News	47.50	@	—
Solid News	47.50	@	—
Manila Lined Chip	55.00	@	—
Container Lined—			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White.	2.20	@	2.25
White Env. Cuttings	2.40	@	2.50
No. 1 Soft Shavings.	2.00	@	2.10
No. 1 Mixed	.90	@	1.00
No. 2 Mixed	.70	@	.75
Ledger & Writings	1.45	@	1.50
Solid Books	1.25	@	1.40
Blanks	1.40	@	1.50
Krafts	1.60	@	1.75
New Kraft Cuts	2.15	@	2.25
Manila Envelope Cuttings	1.65	@	1.75
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.80	@	.85
Folded News (over-issue)	.80	@	.85
Old Newspapers—			
No. 1	.70	@	.80
No. 2	.65	@	.70
Mixed Papers—			
No. 1	.65	@	.70
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.06	@	.40
Ledgers	.09	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.10	@	.20
Book, M. F.	.05½	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.09½	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.08	@	.09
Manila Sul., No. 1	.04	@	.05½
Manila No. 2	.03	@	.04
No. 2 Kraft	.06	@	.06½
No. 1 Kraft	.06½	@	.07
Common Bogus	.03½	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	75.00
News Board	38.00	@	42.00
Chip Board	35.00	@	40.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	53.00	@	55.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.44	@	1.54
Best Tarred, 3-ply	1.83	@	2.08

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.10½	@	.11
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.08½	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03½
Fancy			
New Black Soft	.05	@	.05¼
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08½	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	3.20	@	3.25
No. 2 Hard White	2.75	@	3.00
No. 1 Soft White.	2.50	@	2.60
No. 2 Soft White	1.90	@	2.00
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.85	@	1.90
Writing Paper	1.60	@	1.65
No. 1 Books, heavy	1.45	@	1.55
No. 2 Books, light	1.20	@	1.25
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	.95	@	1.00
Container Manila	.85	@	.90
Old Kraft	2.25	@	2.50
Common paper	.50	@	.55
No. 1 Mixed Paper	.65	@	.70
Straw Board, Chip	.65	@	.70
Binders Board, Chip	.65	@	.70
Overissue News	.85	@	.90
Old Newspaper	.65	@	.70

Domestic Rags (Old)

White, No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
White, No. 2—			
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.65	@	1.75
Repacked	.02½	@	.02¾
No. 2	1.30	@	1.35
No. 3 (Roofing)	1.15	@	1.25
No. 4	1.00	@	1.15
No. 5A	.75	@	.85
B	.65	@	.75
C	.65	@	.75

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.15
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	36½	@	.65
Writings	.07	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05¾	@	.08½
Book, Coated	.08½	@	.20
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	—	@	.06½
No. 2 Kraft	.05¼	@	.06
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls .009			52.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	37.50	@	40.00
Chip Board	35.00	@	37.50
Single Manila Lined Chip	47.50	@	50.00
Single White, Patent Coated Newsboard			
Bender	67.50	@	80.00
Wood Pulp Board	80.00	@	85.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.50	@	2.60
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.35	@	2.45
No. 1 Books, Heavy	1.50	@	1.55
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	1.15	@	1.20
White Blank News	1.60	@	1.65
Old Kraft	—	@	1.80
Print Manila	.80	@	.90
No. 1 Mixed Paper	.52½	@	.57½
Overissue News	.65	@	.80
Old Newspapers	.55	@	.60
Box Board, Chip	.55	@	.60

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.70	@	1.75
Manila Rope—			
Foreign	4.25	@	—
Domestic	4.50	@	—
Mixed Strings	.90	@	1.00
Jute Wiil Strings	—	@	1.00
Scrap Burlaps	1.25	@	1.35
Scrap Sisal	1.60	@	1.80
Scrap Sisal for shredding	1.75	@	2.00
Wool Tares, heavy	—	@	1.50
New Burlap Cutting	1.90	@	2.00
Australian Wool Pouches	2.75	@	3.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.09½	@	.10
Silesias, No. 1	.06	@	.06¼
New Unbleached	.10	@	.10½
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04½
Khaki Cuttings	.04	@	.04¾
O. D. Khaki	.05	@	—
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.25	@	2.35
Thirds and Blues—			
Repacked	2.00	@	2.15
Miscellaneous	1.75	@	1.90
Roofing Stock—			
No. 1	1.65	@	1.75
No. 2	1.45	@	1.55
No. 3	1.05	@	1.10
No. 4	1.10	@	1.15

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.60	@	1.65
New No. 1 Shirt Cuttings	9.00	@	10.00
Dutch Blues	2.00	@	2.12½
Lace Curtains	5.10	@	5.50
New Checks & Blues	4.25	@	4.50
Old Fustians	1.90	@	—
Old Linsey Garments	1.85	@	1.90

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¼	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
News f. o. b. Mills—			
Rolls (carloads)	3.25	@	—
Sheets (carloads)	3.75	@	—
Sheets (2 tons or over)	4.00	@	—
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	11.50	@	—
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.80	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.00	@	—
M. G.	7.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	31.00
Sulphite easy bleaching	62.00	@	—
Sulphite news grade	62.00	@	—
Sulphite, bleached	75.00	@	—
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.80	@	—
No. 1 Mixed Paper	.70	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.11½	@	—
Fancy Shirt Cuttings	.05¼	@	—

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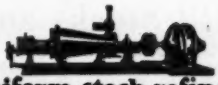
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Paper Mill Stocks and Bonds

Quoted by Taylor & White, 45 Wall street, New York City, to whom all inquiry for quotations on these or any other securities is referred.

BONDS	BID	ASKED
Abitibi Power & Paper 5s, 1943	90	91
Abitibi Power & Paper 6s, serially to 1934	100	102
American Writing Paper 6s, 1947	81	87
Bastrop Pulp & Paper 6½s, 1940	103	105½
Bedford Pulp & Paper 6½s, 1942	97	100
Belgo-Canadian Paper 6s, 1943	100	103
British-Columbia Pulp & Paper 6s, 1950	89	9[illegible]
Brown Paper Mills Serial 6s, 1941	97	100
Brown Company 5½s, 1946	98	101
Bryant Paper 6s, 1942	98	101½
Canadian Paper Board 7s, 19337	97	99½
Cape Breton Pulp & Paper 6s, 1932	103	...
Celotex Company 6s, 1929	95	99
Celotex Company 6½s, 1939	100	102
Celotex Company of Chicago, Debenture 6s, 1936	95	98
Central Paper Company Serial 6½s, 1942	86	89
Central Paper 7s, 1934	78	...
Champion Coated Paper Serial 6½s, 1934	100	...
Champion Coated Fibre Notes 6s, 1941	100	102
Champion Fibre Notes 6s, 1941	100	102
Champion Fibre Notes 8s, 1930	95	...
Champion Paper Corp. 6s, 1945	95	98
Container Corp. of America Debenture 6s, 1936, ex-warrants	101	104
Continental Paper Products 6½s, 1943	90	99
Cornell Wood Products 7½s, 1937	103	...
Crown Willamette 6s, 1951	101	102
Dells Paper & Pulp Serial 6s, 1938	95	98
Dixon Board Mills Serial 6s, 1942	80	...
Donnaconna Paper 5½s, 1948	93	...
Eastern Manufacturing Co. 7s, 1938	97	100
Escanaba Paper Serial 6s, 1939	98	100
Escanaba Paper 6½s, 1935	96	99
Filer Fibre Serial 7s, 1935	90	95
Fort Irange Paper 7s, 1942	101	...
Fort William Paper 6s, 1946	100	104
Fraser Company 6s, 1950	103	105
Hammermill Paper Serial 6s, 1939	100	...
Hawley Pulp & Lumber 6s, 1946	96	...
Hawthorne Paper Company 6s, 1937	80	...
Hoberg Paper & Fibre 7s, 1937	94	97
Industrial Fibre Corp. Debenture 8s, 1933	100	...
Itasca Paper & Prairie River Power Serial 5½s, 1938	99½	...
Itasca Paper & Prairie River Power Serial 6s, 1938	99	...
Jessup & Moore First 6s, 1945	83	90
Kalamazoo Vegetable Parchment 6s, 1938	99	101
Lake Superior Paper 6s, 1941	105	108
Marathon Paper Mills Serial 5½s, 1942	99	101
Marinette & Menominee 7½s, 1936	103	105
Mead Pulp & Paper 5% Notes Serially, 1937	95	100
Mead Fibre 7s, 1937	97	101
Minnesota Ontario Paper Serial 6s, 1945	97½	100
Murray Bay Paper Serial 6½s, 1947	102	105
Munising Paper Serial 6s, 1936	98	...
Nekoosa Edwards Paper 6s, 1928-42	96	...
Ontario Pulp & Paper 6s, 1931	108½	110½
Orono Pulp & Paper 6s, 1943	99	...
Orono Pulp & Paper 5s, 1941	96½	...
Oswego Falls Corp. 6s, 1941	99	102
Parker-Young Company 6½s, 1944	98	100
Paterson Parchment Paper 6s, 1938	101	103
Penobscot Chemical Fibre 6s, 1942	102	105
Port Alfred Pulp & Paper 5½s, 1947	98	100
Price Brothers 6s, 1943	105	...
Provincial Paper 5½s, 1947	98½	...
Queen City Paper 7s, 1933	98	...
River Raisin Paper 6s, 1936	98	100
Riordan Pulp & Paper 6s, 1942	102	104
Rolland Paper 6s, 1937	99	101
St. Croix Paper Serial 5s, 1937	99	...
St. Helen Pulp & Paper 6½s, 1931	99	102
St. Maurice Valley Corp. 6s, 1945	101	104
St. Maurice Valley Corp. 5½s, 1947	98½	100½
St. Regis Paper of Canada 6s, 1931	100	101½
St. Regis Paper of Canada 6½s, 1934	100	102
Smith (Howard) Paper Mills 7s, 1941	104	106
Spanish River Pulp & Paper 6s, 1931	108	110
Stevens-Thompson Paper 6s, 1942	94	96
Taggart Brothers 6s, 1944	95	100
Tait Paper & Color Industries 6s, 1934	88	92
Ticonderoga Pulp & Paper 5s, 1930	94	...
Ticonderoga Pulp & Paper 6s, 1940	100	102
Tomahawk Kraft Paper 6s, 1938	98	...
Tomahawk Pulp Paper 7s, 1932	99	...
Tonawanda Paper 5½s, Series 1941	99	102
Union Bag & Paper Power 6s, 1932	98	100
United Wall Paper Factories 6s, 1947	96	99
Warren (S. D.) Company 6s, 1945	103	105
Watab Paper 6½s, 1942	102	...
Waterway Paper Products 6s, 1931	100	101½
Wayagamack Pulp & Paper 6s, 1951	103	105
Westfield River Paper Serial 7s, 1943	89	93
Whitmer-Parson Pulp & Lumber 8s, 1938	20	25
Whitaker Paper 7s, 1942	108	110

STOCKS	BID	ASKED
American Box Board, Pfd.	9¼	10¼
American Box Board, Com.	9¼	10¼
Am. Tissue Mills, 7% Pfd.	90	93
British Columbia P. & P. Pfd.	75	80
Brompton Pulp & Paper, 8% Pfd.	100	...
Champion Fibre, 7% Ffd.	108	110
Diem & Wing, 7% Pfd.	92	97
Eastern Mfg. Co. 1st Pfd.	55	...
Great Northern Paper, Com.	75	78
Hammermill Paper, new 6% Pfd.	100	...
Hinde & Dauch, Com.	125	None Off.
Hinde & Dauch, 6% Pfd.	102	None Off.
Holyoke Card & Paper	160	None Off.
Marathon Paper Mills, Com.	150	...
Vessel Co., Pfd.	102	104
Midwest Box Co., 8% Pfd.	98	102
Midwest Box Co., 6% Pfd.	95	99
Louis De Jonge Co., 7% Pfd.	94	97
Oxford Papers, Com.	195	...
Oxford Paper Co., Pfd.	108	111
Penobscoto Chemical Fibre, Com.	80	...
Richardson Co., Com.	170	...
Sabin Robbins Paper Co., 8% Pf.	105	110
St. Croix Paper	155	...
St. Regis Paper Co., 7% Cum. Pfd.	105	108
Westfield River Paper Co., 1st Pfg.	Wanted	None off
West Virginia Pulp and Paper Company	55	57
West Virginia Pulp and Paper, Pfd.	100	103
Whitaker Paper, 7% Cum. Pfd.	105	None off.

BUYS WAXED PAPER BUSINESS

(*Continued from page 24*)

The company will take out during the coming season a little less spruce pulpwood and a little more peeled poplar so that the aggregate will be about the same as last year. A. E. Wicks, president of the company, says that the market for pulpwood to Canada mills is steady, but there is not the feeling of optimism or urgency with regard to purchases by United States plants as in some former years. The past winter has been an excellent one for logging and the cost of labor and other expenses have been about what operators estimated they would be for the season.

Pulp and Paper Machinery Map of Canada

A mass of information pertaining to the pulp and paper machinery industry of Canada is embodied in a ready-reference map prepared by the Department of the Interior at Ottawa, through the Natural Resources Intelligence Service. The preliminary issue of the map is designed as a guide to those interested in purchasing Canadian-made pulp and paper machinery, as well as those associated with the industry. This is map No. 2 of the pulp and paper series of industrial maps, No. 1 being the pulp and paper map. One may see from a glance at the map the chief centers of manufacture of pulp and paper machinery in Canada. Another point very well depicted is the small degree of manufacturing carried on along this line in the western provinces, although the manufacture of pulp and paper is a growing industry there, especially in British Columbia. An outstanding feature of the map is the inclusion of a compact directory, which gives the names and addresses of companies manufacturing machinery peculiar to the pulp and paper industry. A second directory gives a classified list of products and the names and addresses of companies handling pulp and paper machinery. A fact worthy of mention is that these lists have been compiled from information actually received from the various companies mentioned.

Notes and Jottings of the Trade

Bulk contract, less wiring, has been awarded to Roderick Campbell, 18 Toronto street, Toronto, for the construction of a one-story brick and mill finish manufacturing plant, to cost approximately $25,000, at 314-318 King street East, near Parliament street, for Commercial Papers, Ltd.

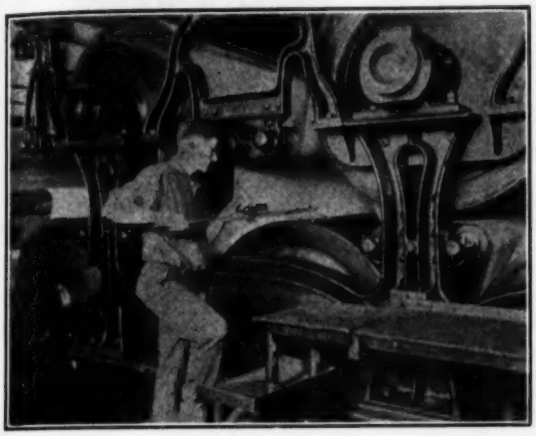
The plant formerly occupied by the Superior Paper Mills, Ltd., at Thorold, Ont., is now being remodelled by the Brantford Roofing Company, which firm recently took the building and plant over. It is stated that the present paper machine will be rearranged and an 84-inch cylinder machine added. The Brantford Roofing Company will operate the plant in the manufacture of roofing papers and the ratepayers of Thorold will vote on a by-law granting a fixed assessment of $10,000 for ten years.

Kilgour's Ltd., manufacturers of paper bags, paper boxes, etc., one of Toronto's oldest paper firms operating on Wellington street West, are negotiating with the Toronto Harbor Commissioners for a site east of John street on the harbor front, for the erection of a seven-story warehouse, containing 140,000 square feet of floor space. Kilgours will be the fourth paper firm to locate on the city's waterfront.

Dr. Herman Rosenfeld, of Rheinische Papiermanufaktur, paper converters at Mannheim, Germany, was a caller, a few days ago, on a number of the paper mills in the Niagara district.

J. R. Forth, for some years an executive with the A. D. Shoup Company, Carlaw avenue, Toronto, manufacturers of paper boxes, has joined the staff of the Telfer Paper Box Company, Ltd., Duncan street, Toronto, as sales manager.

Cambridge Instruments



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